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ABSTRACT

This report is the 11th in an annual series reporting the drug use and related attitudes of America's high school seniors and young adults. The findings, which cover the high school classes of 1975 through 1987, come from an ongoing national research and reporting program entitled "Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth," conducted by the University of Michigan's Institute for Social Research. The opening three chapters review the design and content of the "Monitoring the Future" study, provide an overview of key findings, and describe the study design and procedures. Chapters 4 through 9 focus on high school seniors, providing data on prevalence and trends in drug use, use at earlier levels, degree and duration of drug highs, attitudes and beliefs about drugs, and the social milieu for seniors. Chapters 10 through 13 cover the prevalence, trends, attitudes, and social milieu of post-high school young adults, while chapters 14 and 15 focus on prevalence and trends in drug use among college students. Chapter 16 provides other findings from the study, including the use of nonprescription stimulants, daily marijuana use, and data correlating drug use with other factors. Estimates adjusted for absentees and dropouts are appended. (TE)

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ILLICIT DRUG USE, SMOKING, AND DRINKING BY AMERICA'S HIGH SCHOOL STUDENTS, COLLEGE STUDENTS, AND YOUNG ADULTS

1975-1987

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Public Health Service
Alcohol, Drug Abuse, and Mental Health Administration

ILLICIT DRUG USE, SMOKING, AND DRINKING BY AMERICA'S HIGH SCHOOL STUDENTS, COLLEGE STUDENTS, AND YOUNG ADULTS

1975-1987

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Chapter 1

INTRODUCTION

This report is the eleventh in an annual series reporting the drug use and related attitudes of America's high school seniors and young adults. The findings, which cover the high school classes of 1975 through 1987, come from an ongoing national research and reporting program entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. The program is conducted by the University of Michigan's Institute for Social Research, and is funded by the National Institute on Drug Abuse. The study is sometimes referred to as the High School Senior Survey, since each year a representative sample of all seniors in public and private high schools in the coterminous United States is surveyed. However, it also includes representative samples of young adults from previous graduating classes who are administered follow-up surveys by mail.

Published on a less frequent interval is a series of larger, more detailed volumes. The most recent was published by the National Institute on Drug Abuse in 1984 under the title *Drugs and American High School Students: 1975–1983.* In addition to presenting a full chapter of descriptive information for each of the various classes of drugs, each larger volume contains several appendices dealing with validity, sampling error estimation, and survey instrumentation.

SURVEYS OF HIGH SCHOOL SENIORS

Two of the major topics which continue to be included in this present series of annual reports are the current prevalence of drug use among American high school seniors, and trends in use by seniors since the study began in 1975. Also reported are data on grade of first use, trends in use at lower grade levels, intensity of drug use, attitudes and beliefs among seniors concerning various types of drug use, and their perceptions of certain relevant aspects of the social environment.

SURVEYS OF COLLEGE STUDENTS AND YOUNG ADULTS GENERALLY

Data on the prevalence and trends in drug use among young adults who have completed high school are also incorporated into this report series. The period of young adulthood (late teens to the late twenties) is particularly important because this tends to be the period of peak levels of use for many drugs. The continuing epidemic of cocaine use among young adults also makes this an age group of particular policy importance.

The Monitoring the Future study design calls for continuing follow-up panel studies of a subsample of the participants in each participating senior class, beginning with the class of 1976. Thus, data were gathered in 1987 on representative samples of the graduating classes of 1976 through 1986, corresponding to modal ages of 19 to 29.

Separate data also are presented on college students specifically. This segment of the young adult population has not been well represented in other national surveys, because many college students live on campus, in dormitories, fraternities, and sororities, and these group dwellings are not included in the national household survey population.

CONTENT AREAS COVERED IN THIS REPORT

Eleven separate classes of drugs are distinguished in this report: marijuana (including hashish), inhalants, hallucinogens, cocaine (including crack), heroin, opiates other than heroin (both natural and synthetic), stimulants (more specifically, amphetamines), sedatives, tranquilizers, alcohol, and nicotine. (This particular organization of drug use classes was chosen to heighten comparability with a parallel series of publications based on the National Institute on Drug Abuse's national household surveys on drug abuse.) Separate statistics are also presented here for several sub-classes of drugs: PCP and LSD (both hallucinogens), barbiturates and methaqualone (both sedatives), and the amyl and butyl nitrites (both inhalants). PCP and the nitrites were added to our measurements for the first time in 1979 because of increasing concern over their rising popularity and possibly deleterious effects; trend data are thus only available for them since 1979. For similar reasons, "crack" cocaine was added to the 1986 survey and the questions on crack were expanded in 1987.[1] Barbiturates and methaqualone, which constitute the two components of the "sedatives" class as used here, have been separately measured from the outset. They have been presented separately because their trend lines are substantially different.

For drugs other than alcohol, cigarettes, and nonprescription stimulants, practically all of the information reported here deals with illicit use. Respondents are asked to exclude any occasions on which they used any of the psychotherapeutic drugs under medical supervision. (Some data on the medically supervised use of such drugs are contained in the full 1977, 1978, 1981, and 1983 volumes, and a recent article gives trends in the medical use of these drugs.[2])

Throughout this report we have chosen to focus considerable attention on drug use at the higher frequency levels rather than simply reporting proportions who have ever used various drugs. This is done to help differentiate levels of seriousness, or extent, of drug involvement. While there still is no public consensus of what levels or patterns of use constitute "abuse," there is surely a consensus that higher levels of use are more likely to have detrimental effects for the user and society than are lower levels. We have also introduced indirect measures of dosage per occasion, by asking respondents the duration and intensity of the highs they usually experience with each type of drug. Chapter 7 of this report deals with those results.

For both licit and illicit drugs, separate sections of this report are devoted to age of first use; the seniors' own attitudes and beliefs; the attitudes, beliefs, and behaviors of others in the seniors' social environment; and perceived drug availability.

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[1] See last section in Chapter 4 entitled "Prevalence of Drug Use Among High School Seniors".

[2] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1987). Psychotherapeutic, licit, and illicit use of drugs among adolescents: An epidemiological perspective. *Journal of Adolescent Health Care*, *8*, 36–51.

In 1982 we added a special section, under Chapter 16, "Other Findings from the Study," dealing with the use of nonprescription stimulants, including diet pills, stay-awake pills, and the "look-alike" pseudo-amphetamines. Questions on these substances were placed in the survey beginning in 1982 because the use of such substances appeared to be on the rise, and also because their inappropriate inclusion by some respondents in their answers about amphetamine use were affecting the observed trends. The "Other Findings from the Study" section continues to present trend results on those nonprescription substances.

Chapter 16 also presents trend results from a set of questions on the use of marijuana at a daily or near-daily level. These questions were added to enable us to develop a more complete individual history of daily use over a period of years, and they reveal some very interesting facts about the frequent users of this drug.

In addition, results reported in two recent journal articles are summarized. One addresses the question of to what extent drug use is simply a manifestation of a more general tendency toward deviance. The second presents the results of a set of multivariable analyses aimed at differentiating three types of change in the use of the various drugs: i.e., changes due to age, period, and cohort effects. This analysis illustrates the unique analytic power of the cohort sequential design used in this study.

This year for the first time we have added two important chapters to the section of the volume dealing with young adults—Chapter 12, Attitudes and Beliefs About Drugs, Among Young Adults About Drugs, and Chapter 13, The Social Milieu for Young Adults. These parallel in their content the topics covered for high school seniors in Chapters 8 and 9; namely, the perceived risks of various drugs, personal disapproval of various forms of drug use, exposure to the use of various drugs through friends and others, the perceived norms in their own friendship circles, and the perceived availability of various drugs. In addition, Chapters 10 and 11, which deal with actual drug use by young adults, have been expanded to take into consideration differences in use associated with region of the country and community size (or population density).

PURPOSES AND RATIONALE FOR THIS RESEARCH

Perhaps no area has proven more clearly appropriate for the application of systematic research and reporting than the drug field, given its rapid rate of change, its importance for the well-being of the nation, and the amount of legislative and administrative intervention which continues to be addressed to it. Young people are often at the leading edge of social change; and this has been particularly true in the case of drug use. The massive upsurge in illicit drug use during the last twenty-five years has proven to be primarily a youth phenomenon, with onset of use most likely to occur during adolescence. From one year to the next particular drugs rise or fall in popularity, and related problems occur for youth, for their families, for governmental agencies, and for society as a whole. This year's findings continue to show that considerable change is taking place.

One of the major purposes of the Monitoring the Future series is to develop an accurate picture of the current drug use situation and trends—and this in itself is a formidable task, given the illicit and illegal nature of most of the phenomena under study. Having a reasonably accurate picture of the basic size and contours of the problem of illicit drug

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use among young Americans is a prerequisite for rational public debate and policy making. In the absence of reliable *prevalence* data, substantial misconceptions can develop and resources can be misallocated. In the absence of reliable data on *trends*, early detection and localization of emerging problems are more difficult, and assessments of the impact of major historical and policy-induced events are much more conjectural.

The study also monitors a number of factors which may help to *explain* changes in drug use observed to be occurring. Some of them are presented in this series of volumes, including peer norms regarding drugs, beliefs about the dangers of drugs, perceived availability, and so on.

The Monitoring the Future study also has many important research objectives in addition to assessing accurately prevalence and trends, and trying to determine the causes of some of these trends—objectives which are not addressed in any detail in this volume. Among these other objectives are: helping to determine what types of young people are at greatest risk for developing various patterns of drug abuse; gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how those orientations are shifting over time; determining the immediate and more general aspects of the social environment which are associated with drug use and abuse; determining how drug use is affected by major transitions in social environment (such as entry into military service, civilian employment, college, unemployment) or in social roles (marriage, parenthood); determining the life course of the various drug using behaviors during this period of development; distinguishing such "age effects" from cohort and period effects in determining drug use; determining the effects of social legislation on various types of substance use; and determining the changing connotations of drug use and changing patterns of multiple drug use among youth. Readers interested in publications dealing with any of these other areas should write the authors at the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106-1248.

Chapter 2

OVERVIEW OF KEY FINDINGS

This monograph reports findings from the ongoing research and reporting project entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. Each year since 1975, in-school surveys of nationally representative samples of high school seniors have been conducted. In addition, in each year since 1976, representative subsamples of the participants from each previously graduating class have been surveyed by mail. (Note that the high school dropout segment of the population—about 15% of an age group—is of necessity omitted from the coverage of all three populations.)

Findings on the prevalence and trends in drug use and related factors are reported in this volume for high school seniors and also for young adult high school graduates 19–29 years old. Trend data are presented for varying time intervals, ranging up to twelve years. Results are given separately for college students, a particularly important subset of this young adult population, for which there currently exist no other nationally representative data.

A number of important findings emerge from these three national populations—high school seniors, young adults through age 29, and college students. They have been summarized and integrated in this chapter so that the reader may quickly get an overview of the key results.

TRENDS IN ILLICIT DRUG USE

- Without question the most important development in 1987 was a sharp downturn for the first time in the use of ***cocaine*** in all three population groups. Annual prevalence of use fell by about one-fifth in each group, and 30-day prevalence fell by an even larger proportion.[3] Since cocaine use had become so widespread, and has been demonstrated to be so hazardous, the fact that it is finally showing signs of a decline is particularly encouraging. As we predicted earlier, the decline occurred when young people began to see experimental and occasional use as more dangerous; and this happened in 1987, probably partly because the hazards of cocaine use received extensive media coverage in the preceding year, but almost surely in part because of the cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers.

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[3] Annual prevalence is the percent reporting any use in the prior twelve months, while 30-day prevalence is the percent reporting any use in the prior 30 days.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age, actually reaching 40% by age 27 to 28. Unlike all of the other illicit drugs, active use—i.e., annual prevalence or monthly prevalence—also climbs substantially after high school.

- Also encouraging was the fact that the use of ***crack cocaine*** appeared to level in 1987 at relatively low prevalence rates, at least within these populations. This occurred despite the fact that the crack phenomenon continued a process of diffusion to new communities that year. In the 1986 survey about half (52%) of the schools in the national sample showed some positive prevalence of crack, but by 1987 this statistic had risen by half to 77%. Clearly the diffusion of this drug form to most of the nation's communities and schools has occurred—despite the widespread perception that crack is primarily an inner city problem. In 1987, lifetime prevalence for seniors stands at 5.6%, and annual prevalence stands at 4.0%—almost exactly where it was in 1986 (4.1%) despite the further diffusion of the drug. Among young adults one to ten years past high school, lifetime prevalence is slightly higher (6.3%) and annual prevalence slightly lower (3.1%) than among seniors. Again, the annual prevalence among young adults is almost identical to what it was in 1986 (3.2%), providing further evidence that use has leveled.

  College students one to four years past high school showed an increase in annual prevalence (from 1.3% to 2.0%) between 1986 and 1987, but it is not statistically significant. However, they still have an annual rate less than half that observed among their agemates not in college (4.4%). (In high school annual crack prevalence among the college-bound is also about half of what it is for those not bound for college (2.8% vs. 5.5%).)

  Regional differences in crack use among seniors are similar to what they are for cocaine in general: highest in the West (6.3% annual prevalence), followed by the Northeast (4.1%), the North Central (3.6%) and the South (2.9%). Use is highest in the large cities (4.8%), followed by nonmetropolitan areas (4.1%), and the smaller cities (3.5%).

  We believe that the particularly intense media coverage of the hazards of crack cocaine, which took place quite early in what could have been a considerably more serious epidemic, likely had the effect of "capping" that epidemic early by deterring many would-be users and by motivating many experimenters to desist use. (While 5.6% of seniors report having tried crack, only 1.5% indicate use in the past month.)

- The decline in ***cocaine*** use in 1987 was accompanied by a further decline for a number of other drugs as well. The annual prevalence of ***marijuana*** use among seniors fell to the lowest level since the study began (36%, down 2.5% from 1986). A similar decrease occurred among college students (37%, down 3.9%) and among all young adults one to ten years past high school (down 1.7% to 35%). ***Daily marijuana use*** fell significantly for seniors (down 0.7% to 3.3%) but showed no further decline among young adults (4.2%) or college students (2.3%). For seniors this represents a two-thirds overall drop in daily use from the peak level of 10.7%, observed in 1978. College students have also dropped by two-thirds from our first reading of 7.2% in 1980.

- Another widely used class of illicit drugs showing an important shift in 1987 is ***stimulants*** (or more specifically, amphetamines). There continued to be significant declines in use among all three populations in 1987 as part of a longer-term trend that began in 1982. Since 1982, annual prevalence has fallen from 20% to 12% among seniors and from 21% to 7% among college students. In general, the decline has been sharper among young adults, including college students, than among high school seniors. (This sharper decline among young adults also appears to be true for ***marijuana***, ***LSD***, and ***methaqualone***.)

- Concurrent with this drop in illicit amphetamine use is a significant increase in the use of over-the-counter ***stay-awake pills***, which usually contain caffeine as their active ingredient. Their annual prevalence among seniors doubled in five years, from 12% in 1982 to 25% in 1987.

  The other two classes of nonprescription stimulants—the ***"look alikes"*** and the over-the-counter ***diet pills***—have actually shown some fall-off in recent years. Still, 38% of young women have tried diet pills by the end of senior year, 21% have used them in the past year, and 9% in just the past month.

- ***LSD*** use has been fairly constant over the last several years in all three populations, following a period of some decline.

- ***PCP*** use also had been constant for several years among high school seniors at quite a low level (annual prevalence of 2.4% in 1986). It fell further in 1987 to 1.3%, far below its peak level of 7.0% in 1979. (PCP is not reported for the follow-up surveys, because it is included in only one questionnaire form, yielding too few cases.)

- The annual prevalence of ***heroin*** use has been very steady since 1979 among seniors at 0.5% to 0.6%. (It had earlier fallen from 1.0% in 1975.) The heroin statistics for young adults and college students have also remained quite stable in recent years at low rates (about 0.2%). However, it appears that among the young adult population one to four years past high school, including college students, there was some drop in heroin use between 1980 and 1982.

- The use of ***opiates other than heroin*** has been quite level over the life of the study. Seniors have had an annual prevalence rate of 5% or 6% since 1975. Young adults in their twenties have generally shown a similar cross-time pattern.

- After a long and substantial decline which began in 1977, ***tranquilizer*** use among high school seniors appears to have stabilized in the last several years at around 6% annual prevalence (compared to 11% in 1977), at about 5% for the young adult sample, and at about 4% for the college student sample.

- The long-term gradual decline in ***barbiturate*** use, which began at least as early as 1975, when the study began, continued in 1987; the annual prevalence among seniors fell to 3.6% (compared to 10.7% in 1975). Annual prevalence of this class of sedative drugs is even lower among the young adult sample (2.1%), and among college students specifically (1.2%). All three groups showed declines in 1987, but they were too small to be statistically significant.

- ***Methaqualone***, another sedative drug, has shown quite a different trend pattern. Its use rose steadily among seniors from 1975 to 1981, when annual prevalence reached 8%. It then fell rather sharply to 1.5% by 1987, including a significant drop in 1987 of 0.6%. Use also fell among all young adults and among college students, both of which now have an annual prevalence of use of just 0.8%. In recent years, shrinking availability may well have played a role in this drop, as legal manufacture and distribution of the drug ceased.

- In sum, the three classes of illicitly used drugs which now impact on appreciable proportions of young Americans in their late teens and twenties are ***marijuana***, ***cocaine***, and ***stimulants***. Among high school seniors they show annual prevalence rates in 1987 of 36%, 10%, and 12% respectively. Among college students the comparable annual prevalence rates in 1986 are 37%, 14%, and 7%; and for all high school graduates one to ten years past high school (the "young adult" sample) they are 35%, 16%, and 9%.

Age-Related Differences

- A number of additional interesting findings emerge from the sections in this report dealing with age-related changes in use. One is that the already high proportion of young people who by senior year have at least tried ***any illicit drug*** (57% in 1987) grows substantially larger up through the mid-twenties (where it reaches nearly 80% in 1987). There is a similar rise in the proportion using ***any illicit drug other than marijuana*** (36% among seniors in 1987 vs. about 60% among those in their mid-twenties). Lifetime prevalence for ***marijuana*** reaches about 75% by the mid-twenties (vs. 50% among 1987 seniors) and for ***cocaine*** about 40% (vs. 15% among 1987 seniors).

- On the other hand, *active* illicit drug use among the older age groups has tended to approximate the levels observed among seniors. This has been true for the annual prevalence of ***any illicit drug***, ***marijuana***, and ***tranquilizers***. It has also been true for ***daily marijuana use***. In fact, the young adult sample actually has lower rates of annual prevalence than high school seniors on five drugs—***LSD***, ***methaqualone***, ***barbiturates***, ***stimulants*** and ***opiates other than heroin***. ***Cocaine***, of course, is the exception in that active use rises until about age 25, where it reaches a plateau (and thereafter may decline).

College-Noncollege Differences

- ***American college students*** (one to four years past high school) show annual usage rates for a number of drugs which are about average for their age, including ***any illicit drug***, ***marijuana*** specifically (although their rate of ***daily marijuana use*** is half what it is for the rest of their age group, i.e., 2.3% vs. 4.6%), ***inhalants***, ***LSD***, ***heroin***, and ***opiates other than heroin***. For several categories of drugs, however, college students have rates of use which are below those of their age peers, including ***any illicit drug other than marijuana***, ***cocaine***, ***crack*** cocaine specifically, ***stimulants***, ***barbiturates***, and ***tranquilizers***.

  Since college-bound seniors in high school had below average rates of use on all of these illicit drugs, their eventually attaining parity on some of them reflects a "catching up" to some degree. As results from the study published elsewhere have shown, the "catching up" may be explainable more in terms of differential rates of leaving the parental home and of getting married than in terms of any direct effects of college *per se*. (College students are more likely to have left the parental home and less likely to have gotten married than their age peers.)

- In general, the trends since 1980 in illicit substance use among American college students are found to parallel those of their age peers not in college. That means that for most drugs there has been a decline in use over the interval. Further, all young adult high school graduates through age 28, as well as college students taken separately, show trends which are highly parallel for the most part to the trends among high school seniors, although declines in the active use of many of the drugs over the past half decade have been proportionately larger in these two older populations than among high school seniors (particularly the declines in ***LSD*** and ***stimulant*** use).

Male-Female Differences

- Regarding sex differences in the three populations, males are more likely to use ***most illicit drugs***, and the differences tend to be largest at the higher frequency levels. ***Daily marijuana use*** among high school seniors in 1987, for example, is reported by 4.3% of males vs. 2.1% of females; among all young adults by 6.5% of males vs. 2.3% of females; and among college students, specifically, by 3.1% of males vs. 1.7% of females. The only exceptions to the rule that males are more frequently users of illicit drugs than females occur for ***stimulant*** and ***tranquilizer*** use in high school, where females are slightly higher. The sexes attain near parity on ***stimulant*** and ***tranquilizer*** use among the college and young adult populations.

- Insofar as there have been differential trends for the two sexes among any of these populations, they have been in the direction of a diminution of differences between the sexes. For college students, previous differences in the usage rates for ***methaqualone***, ***LSD*** and ***daily marijuana use*** are disappearing as the prevalence rates for both sexes converge toward zero (which means that use by males has fallen more). The same is happening for daily marijuana use among young adults generally, as well as high school seniors. There is also some convergence between the sexes in ***stimulant*** use among all three sub-populations. The convergence is again due to a greater drop in use among males.

TRENDS IN ALCOHOL USE

- Regarding ***alcohol*** use in these age groups, several findings are noteworthy. First, despite the fact that it is illegal for virtually all high school students and most college students to purchase alcoholic beverages, experience with alcohol is almost universal among them (92% of seniors have tried it) and active use is widespread. Most important, perhaps, is the widespread occurrence of ***occasions of heavy drinking***—here measured by the percent reporting 5 or more drinks in a row at least once in the prior two-week period. Among seniors this statistic stands at 38% and among college students it stands at 43%.

- Regarding trends in alcohol use, during the period of recent decline in the use of marijuana and other drugs there appears not to have been any "displacement effect" in terms of any increase in alcohol use among seniors. (It was not uncommon to hear such a displacement hypothesis asserted.) If anything, the opposite seems to be true. Since 1980, the monthly prevalence of alcohol use among seniors has gradually declined, from 72% in 1980 to 66% in 1985, where it remains in 1987. ***Daily use*** declined from a peak of 6.9% in 1979 to 4.8% in 1984 (with no further decline through 1987); and the prevalence of drinking ***five or more drinks in a row*** during the prior two-week interval fell from 41% in 1983 to 37% in 1985 (with no further drop since then).

College-Noncollege Differences

- The data from college students show a somewhat different pattern in relation to alcohol use. They show very little drop off in monthly prevalence since 1980 (about 3%), no clearly discernible change in ***daily use*** or in ***occasions of heavy drinking***, which is at 43% in 1987—higher than the 38% among high school seniors.

- The 43% figure in ***occasions of heavy drinking*** is also higher than the rate observed among their age peers (i.e., those one to four years past high school) not in college (36%), which means that college students are well above average on occasions of heavy drinking. Since the college-bound seniors *in* high school are consistently less likely to report occasions of heavy drinking than the noncollege-bound, this reflects "catching up and passing" their peers after high school.

- In most surveys from 1980 onward, college students have had a ***daily drinking*** rate (6.0% in 1987) which is slightly lower than that of their age peers (6.6% in 1987), suggesting that they are somewhat more likely to confine their drinking to weekends, on which occasions they tend to drink a lot. (Again, college men have much higher rates of daily drinking than college women: 8.8% vs. 3.9%.) The rate of daily drinking has fallen among the noncollege group from 8.7% in 1981 to 6.6% in 1987.

Male-Female Differences

- There remains a quite substantial sex difference among high school seniors in the prevalence of ***occasions of heavy drinking*** (29% for females vs. 46% for males in 1987), but this difference has been diminishing very gradually since the study began over a decade ago.

  A more detailed analysis shows that the divergent trends between high school students and college students in occasions of heavy drinking is due to some increase (since about 1982) among male college students specifically. (The proportion of them reporting five or more drinks in a row rose from around 53% in the early eighties to around 56% or 57% in the middle eighties.) Female college students showed little change during the eighties, with a constant prevalence of about 35%. Thus an already large sex difference at the college level has become even larger. (There has not been an increase among noncollege males comparable to that observed among college males. If anything, their prevalence may have declined a little.)

- In sum, heavy party drinking among males in college is common and appears to have become more common in recent years. Among high school students, however, there was some decline in such behaviors (which ended in 1985). Sex differences in occasions of heavy drinking appear to have been diminishing somewhat at the high school level at the same time that they were enlarging at the college level.

TRENDS IN CIGARETTE SMOKING

- A number of important findings have emerged from the study concerning ***cigarette smoking*** among American adolescents and young adults. Of greatest importance is the fact that by late adolescence sizeable proportions of young people still are establishing regular cigarette habits, despite the demonstrated health risks associated with smoking. In fact, since the study began in 1975, cigarettes have comprised the class of substance most frequently used on a daily basis by high school students.

- While their ***daily smoking*** rate did drop considerably between 1977 and 1981 (from 29% to 20%), it has dropped very little in the six years since (by another 1.6%), despite the appreciable downturn which has occurred in most other forms of drug use (including alcohol) during this period. And, despite all the adverse publicity and restrictive legislation addressed to the subject during the eighties, the proportion of seniors who perceive "great risk" to the user of suffering physical (or other) harm from pack-a-day smoking has risen only 5% since 1980 (to 69% in 1987). That means that nearly a third of seniors still do not feel there is a great risk associated with smoking.

Age and Cohort-Related Differences

- Initiation of daily smoking most often occurs in grades 6 through 9 (i.e., at modal ages 11 to 14), with rather little further initiation after high school (although a number of light smokers make the transition to heavy smoking in the first two years after high school). Analyses presented in this volume and elsewhere have shown that cigarette smoking shows a clear "cohort effect." That is, if a class (or birth) cohort establishes an unusually high rate of smoking at an early age relative to other cohorts, it is likely to remain high throughout the life cycle.

- As we reported in the 1986 volume, in the section on "Other Findings from the Study," some 53% of the half-pack-a-day (or more) smokers in senior year said that they had tried to quit smoking and found they could not. Of those who were daily smokers in high school, nearly three-quarters were daily smokers 7 to 9 years later (based on the 1985 survey), despite the fact that in high school only 5% of them thought they would "definitely" be smoking 5 years hence. Clearly, the smoking habit is established at an early age and is difficult to break for those young people who have it.

College-Noncollege Differences

- There exists a striking difference between the college-bound in high school and those not college-bound in terms of smoking rates. For example, smoking half-a-pack a day is nearly three times as prevalent among the noncollege-bound (20% vs 7%).

- Among those one to four years past high school, those not in college show the same dramatically higher rate of smoking compared to that found among those in college, with half-pack-a-day smoking standing at 24% and 8%, respectively.

Male-Female Differences

- Females are a little more likely to smoke than their male counterparts in high school, as well as in young adulthood for those not in college.

- Females in college have been shown in recent years to be considerably more likely than males in college to be smokers.

Relationships with Other Factors

- In the prior volume in this series we showed that smoking bears a strong negative relationship with academic performance in high school.

- It also bears a strong positive relationship with the use of all of the ***illicit drugs—marijuana***, in particular—and with ***alcohol*** use. For example, in 1985 among the pack-a-day smokers, 98% had used an illicit drug, 81% had used an illicit drug other than marijuana, and 26% were current daily users of illicit drugs (mostly marijuana).

SUMMARY AND CONCLUSIONS

- To summarize these findings in trends, over the last seven years there has been an appreciable decline in the use of a number of the ***illicit drugs*** among seniors, and even larger declines in their use among American college students and young adults more generally. The stall in these favorable trends in all three populations in 1985, as well as an increase in active ***cocaine*** use that year, should serve as a reminder that these improvements cannot be taken for granted. Fortunately, in 1986 we saw the general decline resume and the prevalence of cocaine level off, albeit at peak levels; and in 1987 the general decline continued, while cocaine use took a sharp downturn for the first time in more than a decade.

- While the overall picture has improved considerably in the past seven years, the amount of illicit as well as licit drug use among

America's younger age groups is still striking when one takes into account the following facts:

> By their mid-twenties, nearly 80% of today's young adults have tried an ***illicit drug***, including some 60% who have tried some ***illicit drug other than*** (usually in addition to) ***marijuana***. Even for high school seniors these proportions still stand at 57% and 36%, respectively.
>
> By age 27, roughly 40% have tried ***cocaine***. As early as the senior year of high school, some 17% have done so. Roughly one in eighteen seniors (5.6%) have tried the particularly dangerous form of cocaine called ***crack***.
>
> One in thirty (3.3%) high school seniors in 1987 smokes ***marijuana daily***, and roughly the same proportion (4.2%) of young adults aged 19 to 28 do, as well. Among all seniors in 1987, 15% had been daily marijuana smokers at some time, and among young adults the comparable figure is 20%.
>
> About one in twenty seniors drinks ***alcohol daily*** (4.8%). Some 38% have had ***five or more drinks in a row*** at least once in the prior two weeks, and such behavior tends to increase among young adults one to four years past high school. The prevalence of such behavior among male college students reaches 54%.
>
> Some 29% of seniors have smoked ***cigarettes*** in the month prior to the survey and 19% already are daily smokers. In addition, many of the lighter smokers will convert to heavy smoking after high school. For example, one in every four young adults aged 19 to 28 are daily smokers (25%), and one in five (20%) smoke a half-pack-a-day or more.

- Despite the improvements in recent years, it is still true that this nation's high school students and other young adults show a level of involvement with illicit drugs which is greater than can be found in any other industrialized nation in the world. Even by historical standards in this country, these rates remain extremely high. Heavy drinking also is widespread and of public health concern; and certainly the continuing initiation of large proportions of young people to cigarette smoking is a matter of great public health concern.

Chapter 3

STUDY DESIGN AND PROCEDURES

The research design, sampling plans, and field procedures used in both the in-school surveys of seniors, and the follow-up surveys of young adults, will be described in this Chapter. Related methodological issues such as response rates, population coverage, and the validity of the measures will also be discussed.

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF SENIORS

The data from high school seniors are collected during the spring of each year, beginning with the class of 1975. Each data collection takes place in approximately 125 to 135 public and private high schools selected to provide an accurate representative cross-section of high school seniors throughout the coterminous United States. (See Figure 1.)

The population under study. There are several reasons for choosing the senior year of high school as an optimal point for monitoring the drug use and related attitudes of youth. First, the completion of high school represents the end of an important developmental stage in this society, since it demarcates both the end of universal public education and, for many, the end of living in the parental home. Therefore, it is a logical point at which to take stock of the cumulated influences of these two environments on American youth. Further, the completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences. Finally, there are some important practical advantages to building a system of data collections around samples of high school seniors. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable stress be laid on efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The omission of dropouts. One limitation in the design is that it does not include in the target population those young men and women who drop out of high school before graduation—between 15 and 20 percent of each age cohort. The omission of high school dropouts does introduce biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of dropouts sets outer limits on the bias. Further, since the bias from missing dropouts should remain just about constant from year to year, their omission should introduce little or no bias in *change* estimates.[4] Indeed, we believe the changes observed over time for those who finish high school are likely to parallel the changes for dropouts in most instances.

Sampling procedures. A multi-stage procedure is used for securing the nationwide sample of high school seniors each year. Stage 1 is the selection of particular geographic

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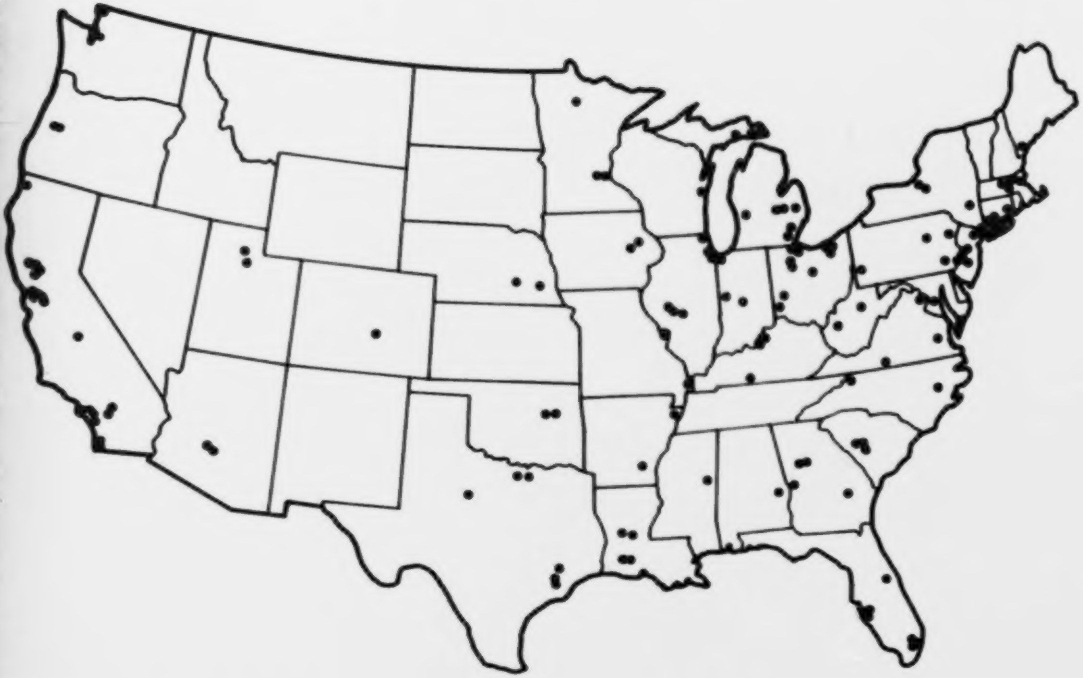
[4] See the Appendix for a detailed discussion of the likely effects of the exclusion of dropouts on estimates of prevalence of drug use and trends in drug use among the entire age cohort.

FIGURE 1

Location of Schools Surveyed



areas, Stage 2 the selection of one or more high schools in each area, and Stage 3 the selection of seniors within each high school.

This three-stage sampling procedure yielded the numbers of participating schools and students shown in Table 1.

Questionnaire administration. About ten days before the administration, students are given flyers explaining the study. The actual questionnaire administrations are conducted by the local Institute for Social Research representatives and their assistants, following standardized procedures detailed in a project instruction manual. The questionnaires are administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations.

Questionnaire format. Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content is divided into five different questionnaire forms (which are distributed to participants in an ordered sequence that ensures five virtually identical subsamples). About one-third of each questionnaire form consists of key or "core" variables which are common to all forms. All demographic variables, and nearly all of the drug *use* variables included in this report, are included in this "core" set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social environment are contained in only a single form, however, and are thus based on one-fifth as many cases (i.e., approximately 3,400 respondents in 1987).

RESEARCH DESIGN AND PROCEDURES FOR THE FOLLOW-UP SURVEYS

Beginning with the graduating class of 1976, each class is followed up annually after high school on a continuing basis. From the approximately 17,000 seniors originally participating in a given class, a representative sample of 2,400 individuals is chosen for follow-up. In order to ensure sufficient numbers of drug users in the follow-up surveys, those fitting certain criteria of current drug use (that is, those reporting current daily marijuana use in senior year or use of any of the other illicit drugs in the previous 30 days) are selected with higher probability (by a factor of 3.0) than the remaining seniors. Differential weighting is then used in all follow-up analyses to compensate for the differential sampling probabilities.

The 2,400 selected respondents from each class are randomly assigned to one of two matching groups of 1,200 each; one group is surveyed on even-numbered calendar years, while the other group is surveyed on odd-numbered years. This two-year cycle is intended to reduce respondent burden, and thus yield a better retention rate across years.

Follow-up procedures. Using information provided by respondents at the time of the senior survey (name, address, phone number, and the name and address of someone who would always know how to reach them), project staff contact the students selected for the panels by mail. Newsletters are sent each year and name and address corrections are requested. The questionnaires are sent by certified mail in the spring of each year. A check for $5.00, made out to the respondent, is attached to the front of each questionnaire. Reminder letters and post cards go out at fixed intervals thereafter; finally, those

TABLE 1
Sample Sizes and Response Rates

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987
Number public schools	111	108	108	111	111	107	109	116	112	117	115	113	117
Number private schools	14	15	16	20	20	20	19	21	22	17	17	16	18
Total number schools	125	123	124	131	131	127	128	137	134	134	132	129	135
Total number students	15,791	16,678	18,436	18,924	16,662	16,524	18,267	18,348	16,947	16,499	16,502	15,713	16,843
Student response rate	78%	77%	79%	83%	82%	82%	81%	83%	84%	83%	84%	83%	84%

not responding receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor. If requested, a second copy of the questionnaire is sent; but no questionnaire content is administered by phone.

Panel retention rates. To date the panel retention rates have remained quite high. In the first follow-up after high school, about 83% of the original panel have returned questionnaires. The retention rate reduces with time, as would be expected. The 1987 panel retention from the class of 1976—the oldest of the panels, now aged 29 and 11 years past high school—still remains quite high at 70.6%.

Corrections for panel attrition. Since attrition is to a modest degree associated with drug use, we have introduced corrections into the prevalence estimates presented here for the follow-up panels. These raise the prevalence estimates from what they would be uncorrected, but only slightly. We believe the resulting estimates to be the most accurate obtainable, but still low for the age group as a whole due to the omission of dropouts and absentees from the population covered by the original panels.

REPRESENTATIVENESS AND VALIDITY

School participation. Schools are invited to participate in the study for a two-year period. With very few exceptions, each school in the original sample, after participating for one year of the study, has agreed to participate for a second year. Each year thus far, from 66 percent to 80 percent of the schools invited to participate initially have agreed to do so; for each school refusal, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement. The selection of replacement schools almost entirely removes problems of bias in region, urbanicity, and the like, that might result from certain schools refusing to participate. Other potential biases could be more subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, that would seriously bias the sample. And if any other single factor were dominant in most refusals, that also might suggest a source of serious bias. In fact, however, the reasons for a school refusing to participate are varied and are often a function of happenstance events; only a very small proportion specifically object to the drug content of the survey. Thus we feel quite confident that school refusals have not seriously biased the surveys.

Schools are selected in such a way that half of each year's sample is comprised of schools which participated the previous year, and half is comprised of schools which will participate the next year. This staggered half-sample design is used to check on possible errors in the year-to-year trend estimates due to school turnover. Specifically, separate sets of one-year trends are computed using first that half-sample of schools which participated in both 1975 ***and*** 1976, then the half-sample which participated in both 1976 ***and*** 1977, and so on. Thus, each one-year trend estimate derived in this way is based on a constant set of about 65 schools. When the resulting trend data (examined separately for each class of drugs) are compared with trends based on the total sample of schools, the results are highly similar, indicating that the trend estimates are little affected by turnover or shifting refusal rates in the school samples. (The absolute prevalence estimates for a given year are not as accurate using just the half-sample, however.)

Student participation. Completed questionnaires are obtained from 77% to 84% of all sampled students in participating schools each year. The single most important reason that students are missed is absence from class at the time of data collection; in most cases it is not workable to schedule a special follow-up data collection for absent students. Students with fairly high rates of absenteeism also report above-average rates of drug use; therefore, there is some degree of bias introduced into the prevalence estimates by our missing the absentees. Much of that bias could be corrected through the use of special weighting; however, we decided not to do so because the bias in overall drug use estimates was determined to be quite small, and because the necessary weighting procedures would have introduced undesirable complications. (Appendix A of the most recent detailed report[5] provides a discussion of this point and the Appendix to this report shows trend and prevalence estimates which would result with corrections for absentees included.)

Of course, some students are not absent from class, but simply refuse when asked to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1 percent of the target sample.

Sampling accuracy of the estimates. For purposes of this introduction, it is sufficient to note that drug use estimates based on the total sample of seniors each year have confidence intervals that average about ±1% (as shown in Table 2, confidence intervals vary from ±2.1% to smaller than ±0.3%, depending on the drug). This means that had we been able to invite all schools and all seniors in the 48 coterminous states to participate, the results from such a massive survey should be within about one percentage point of our present findings for most drugs at least 95 times out of 100. We consider this to be a high level of sampling accuracy, and one that permits the detection of fairly small changes from one year to the next.

VALIDITY OF THE MEASURES OF SELF-REPORTED DRUG USE

A question which always arises in the study of sensitive behaviors like drug use is whether honest reporting can be secured. Like most studies dealing with sensitive behaviors, we have no direct, objective validation of the present measures; however, the considerable amount of inferential evidence that exists strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence which leads to this conclusion may be found in other publications; here we will only briefly summarize the evidence.[6]

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[5] Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975–1983.* (DHHS Publication No. ADM 85–1374.) Washington, D.C.: U.S. Government Printing Office.

[6] Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Kozel, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57; (ADM) 85–1402). Washington, D.C.: U.S. Government Printing Office; Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975–1983* (DHHS (ADM) 85–1374). Washington, D.C.: U.S. Government Printing Office.

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability—a necessary condition for validity.[7] In essence, this means that respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting some illicit drug use by senior year has reached two-thirds of all respondents in peak years and nearly as high as 80% in some follow-up years, which constitutes *prima facie* evidence that the degree of underreporting must be very limited. Fourth, the seniors' reports of use by their friends—about which they would presumably have less reason to distort—has been highly consistent with self-reported use in terms of both prevalence and trends in prevalence, as will be discussed later in this report. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations—in other words, there is strong evidence of "construct validity." Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of the instruction to respondents to leave blank those drug use questions they felt they could not answer honestly. And seventh, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.

This is not to argue that self-reported measures of drug use are valid in all cases. In the present study we have gone to great lengths to create a situation and set of procedures in which students feel that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. We think the evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as there exists any remaining reporting bias, we believe it to be in the direction of underreporting. Thus, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

Consistency and the measurement of trends. One further point is worth noting in a discussion of the validity of the findings. The Monitoring the Future project is designed to be sensitive to changes from one time to another. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of ***trends*** should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

A NOTE ABOUT THE STIMULANT RESULTS FOR 1979–1982

In reporting their psychotherapeutic drug use, respondents are instructed to exclude not only medically-supervised use, but also any use of over-the-counter (i.e., nonprescription) drugs. However, beginning in about 1979 we believe that some of those reporting stimulant (amphetamine) use were erroneously including the use of over-the-counter stay-awake and diet pills, as well as other pills intentionally manufactured to look like amphetamines, and sold under names which sound like them, but which contain no controlled substances. The advertising and sale of over-the-counter diet pills (most of which contain the mild stimulant phenylpropanolamine) burgeoned at about that time, as was also true for the "sound-alike, look-alike" pills (most of which contain caffeine). We believe that the inappropriate inclusion of these noncontrolled stimulants in some of the responses to our surveys accounted for much of the observed sharp rise in reported "amphetamine" use in 1980 and 1981. Therefore, the reader is advised to view the unadjusted amphetamine-use statistics for those years with some caution.

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[7] O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805–824.

In the 1982 survey, some new questions were introduced on the use of both controlled and noncontrolled stimulants. (We also kept the old version of the question in two questionnaire forms in the high school surveys so that it would be possible to "splice" the trend lines resulting from the old and new questions.) Since 1982 we have included statistics on "amphetamines, adjusted"—which are based on these new questions contained in three of the questionnaire forms in 1982 and 1983 and then in all five questionnaire forms in 1984 and thereafter. We believe these questions have been successful at getting respondents to exclude over-the-counter stimulants and those "look-alike" stimulants which the user knows are look-alikes. However, as is true with several other drug classes, the user may at times be ingesting a substance other than the one he or she thinks it to be. Thus, some erroneous self-reports of "amphetamine" use may remain.

An upward bias from the inclusion of over-the-counter and look-alike stimulants would have affected not only the stimulant (amphetamine) trend statistics in the years in question, but also trend statistics for the composite indexes entitled "use of any illicit drug" and "use of any illicit drug other than marijuana." Since these indexes had been used consistently in this monograph series to compare important subgroups (such as those defined by sex, region, college plans, etc.) we decided to keep them, but to include an adjusted value based on calculations in which amphetamines have been excluded. In other words, this adjusted statistic reflects "use of any illicit drugs other than marijuana *or* amphetamines," and is included to show what happens when amphetamine use—and any upward biases in trends it might contain—is excluded entirely from the trend statistics since 1975.

A second adjusted statistic has also been included since 1982, when the revised amphetamine questions were introduced. It gives our best estimate of overall illicit drug use, ***including*** the use of real amphetamines as measured by the revised amphetamine questions. A ◁ symbol is used to denote this estimate in any figures presenting data on these two illicit drug use indexes, whereas a ◀ symbol is used to denote estimates in which amphetamines are excluded entirely. (See Figure 6 for an example.)

It is worth noting that these two classes of drug use (over-the-counter and look-alike stimulants) which are not actually amphetamine use but which are sometimes inadvertently reported as amphetamine use, reflect two quite different types of behavior. Presumably most users of over-the-counter diet and stay-awake pills are using them for functional reasons and not for recreational purposes. On the other hand, it seems likely that most users of the look-alike pseudo-amphetamines *are* using them for recreational purposes. (In fact, in many cases the user who purchased them on the street may think he or she has the real thing.) Thus, the inclusion of the look-alikes may have introduced a bias in the estimates of true amphetamine use, but not in the estimates of a class of behavior—namely, trying to use controlled stimulants for recreational purposes. Some would argue that the latter is the more important factor to be monitoring in any case.

HIGH SCHOOL SENIORS

Chapter 4

PREVALENCE OF DRUG USE AMONG HIGH SCHOOL SENIORS

This section summarizes the levels of drug use reported by the high school class of 1987. Data are included for lifetime use, use during the past year, use during the past month, and daily use. There is also a comparison of key subgroups in the population based on sex, college plans, region of the country, and population density or urbanicity.

Because we think that the revised questions on amphetamine use, introduced in 1982, give a more accurate picture of the actual use of that controlled substance, all references to amphetamine prevalence rates in this section will be based on that revised version (including references to proportions using "any illicit drug" or "any illicit drug other than marijuana").

It should be noted that all of the prevalence statistics given in this section are based on participating seniors only. Prevalence rate estimates reflecting adjustments for absentees and dropouts may be found in the Appendix to this report.

PREVALENCE OF DRUG USE IN 1987: ALL SENIORS

Lifetime, Annual, and Monthly Prevalence

- Nearly three-fifths of all seniors (57%) report ***illicit drug use*** (using the revised definition of amphetamines) at some time in their lives. However, a substantial proportion of them have used only ***marijuana*** (21% of the sample or 37% of all illicit users).

- More than a third of all seniors (36%) report using an ***illicit drug other than marijuana*** at some time.[8]

- Table 2 provides the 95% confidence interval around the lifetime prevalence estimate for each drug, and Figure 2 gives a ranking of the various drug classes on the basis of their lifetime prevalence figures.

- ***Marijuana*** is by far the most widely used illicit drug with 50% reporting some use in their lifetime, 36% reporting some use in the past year, and 21% reporting some use in the past month.

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[8] Use of "other illicit drugs" includes any use of hallucinogens, cocaine, or heroin *or* any use of other opiates, stimulants, sedatives, or tranquilizers that is not under a doctor's orders.

TABLE 2

Lifetime Prevalence (Percent Ever Used) of Eighteen Types of Drugs: Observed Estimates and 95% Confidence Limits Class of 1987

(Approx. N = 16300)

	Lower limit	Observed estimate	Upper limit
Marijuana/Hashish	48.1	50.2	52.3
Inhalants[a]	15.9	17.0	18.2
Inhalants Adjusted[b]	*17.3*	*18.6*	*20.0*
Amyl & Butyl Nitrites[c]	3.8	4.7	5.8
Hallucinogens	9.2	10.3	11.5
Hallucinogens Adjusted[c,d]	*9.6*	*10.6*	*11.6*
LSD	7.4	8.4	9.5
PCP[c]	2.3	3.0	4.0
Cocaine	13.9	15.2	16.6
"Crack"[g]	5.0	5.6	6.3
Other cocaine[c]	12.5	14.0	15.7
Heroin	0.9	1.2	1.5
Other opiates[e]	8.5	9.2	10.0
Stimulants Adjusted[e,f]	*20.1*	*21.6*	*23.1*
Sedatives[e]	7.7	8.7	9.8
Barbiturates[e]	6.5	7.4	8.4
Methaqualone[e]	3.3	4.0	4.8
Tranquilizers[e]	9.8	10.9	12.1
Alcohol	90.7	92.2	93.5
Cigarettes	65.5	67.2	68.9

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[a] Data based on four questionnaire forms. N is four-fifths of N indicated.

[b] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c] Data based on a single questionnaire form. N is one-fifth of N indicated.

[d] Adjusted for underreporting of PCP. See text for details.

[e] Only drug use which was not under a doctor's orders is included here.

[f] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[g] Data based on two questionnaire forms. N is two-fifths of N indicated.

- The most widely used class of other illicit drugs is ***stimulants*** (22% lifetime prevalence, adjusted).[9] Next come ***inhalants*** (adjusted) at 19% and ***cocaine*** at 15%. These are followed closely by ***hallucinogens*** (adjusted) and ***tranquilizers*** at 11%, and ***opiates other than heroin*** and ***sedatives*** at 9%.[10]

- The inhalant estimates have been adjusted upward because we observed that not all users of one subclass of inhalants—***amyl and butyl nitrites*** (described below)—report themselves as inhalant users. Because we included questions specifically about nitrite use for the first time in one 1979 questionnaire form, we were able to discover this problem and make estimates of the degree to which inhalant use was being underreported in the overall estimates. As a result, all prevalence estimates for ***inhalants*** have been increased, with the proportional increase being greater for the more recent time intervals (i.e., last month, last year) because use of the other common inhalants, such as glue and aerosols, is more likely to have been discontinued prior to senior year, making nitrite use proportionally more important in later years.

- The specific classes of inhalants known as ***amyl and butyl nitrites***, which are sold legally and go by the street names of "poppers" or "snappers" and such brand names as Locker Room and Rush, have been tried by nearly one in twenty seniors (4.7%).

- We also discovered in 1979, by adding questions specifically about ***PCP*** use, that some users of PCP do not report themselves as users of hallucinogens—even though PCP is explicitly included as an example in the questions about hallucinogens. Thus, since 1979 the ***hallucinogen*** prevalence and trend estimates also have been adjusted upward to correct for this known underreporting.[11]

- Lifetime prevalence for the specific hallucinogenic drug ***PCP*** now stands at 3%, significantly lower than that of the other most widely used hallucinogen, ***LSD*** (lifetime prevalence, 8%).

- ***Opiates other than heroin*** have been used by about one in eleven seniors (9%).

- Only 1.2% of the sample admitted to ever using any ***heroin***, the most infrequently used drug. But given the highly illicit nature of this drug, we deem it the most likely to be underreported.

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[9] See note at the end of the introductory section concerning the interpretation of stimulant statistics.

[10] Only use which was not medically supervised is included in the figures cited in the main body of this report.

[11] Because the data to adjust inhalant and hallucinogen use are available from only a single questionnaire form in a given year, the original uncorrected variables will be used in most relational analyses. We believe relational analyses will be least affected by these underestimates and that the most serious impact is on prevalence estimates, which are adjusted appropriately.

TABLE 3

Lifetime Prevalence (Percent Ever Used) and Recency of Use of Eighteen Types of Drugs Class of 1987

(Approx. N = 16300)

	Ever used	Past month	Past year, not past month	Not past year	Never used
Marijuana/Hashish	50.2	21.0	15.3	13.9	49.8
Inhalants[a]	17.0	2.8	4.1	10.1	83.0
Inhalants Adjusted[b]	*18.6*	*3.5*	*4.6*	*10.5*	*81.4*
Amyl & Butyl Nitrites[c]	4.7	1.3	1.3	2.1	95.3
Hallucinogens	10.3	2.5	3.9	3.9	89.7
Hallucinogens Adjusted[a,d]	*10.6*	*2.8*	*3.9*	*3.9*	*89.4*
LSD	8.4	1.8	3.4	3.2	91.6
PCP[c]	3.0	0.6	0.7	1.7	97.0
Cocaine	15.2	4.3	6.0	4.9	84.8
"Crack"[h]	5.6	1.5	2.5	1.6	94.4
Other cocaine[c]	14.0	4.1	5.7	4.2	86.0
Heroin	1.2	0.2	0.3	0.7	98.8
Other opiates[e]	9.2	1.8	3.5	3.9	90.8
Stimulants Adjusted[e,f]	*21.6*	*5.2*	*7.0*	*9.4*	*78.4*
Sedatives[e]	8.7	1.7	2.4	4.6	91.3
Barbiturates[e]	7.4	1.4	2.2	3.8	92.6
Methaqualone[e]	4.0	0.6	0.9	2.5	96.0
Tranquilizers[e]	10.9	2.0	3.5	5.4	89.1
Alcohol	92.2	66.4	19.3	6.5	7.8
Cigarettes	67.2	29.4	(37.8)[g]		32.8

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[a] Data based on four questionnaire forms. N is four-fifths of N indicated.

[b] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c] Data based on a single questionnaire form. N is one-fifth of N indicated.

[d] Adjusted for underreporting of PCP. See text for details.

[e] Only drug use which was not under a doctor's orders is included here.

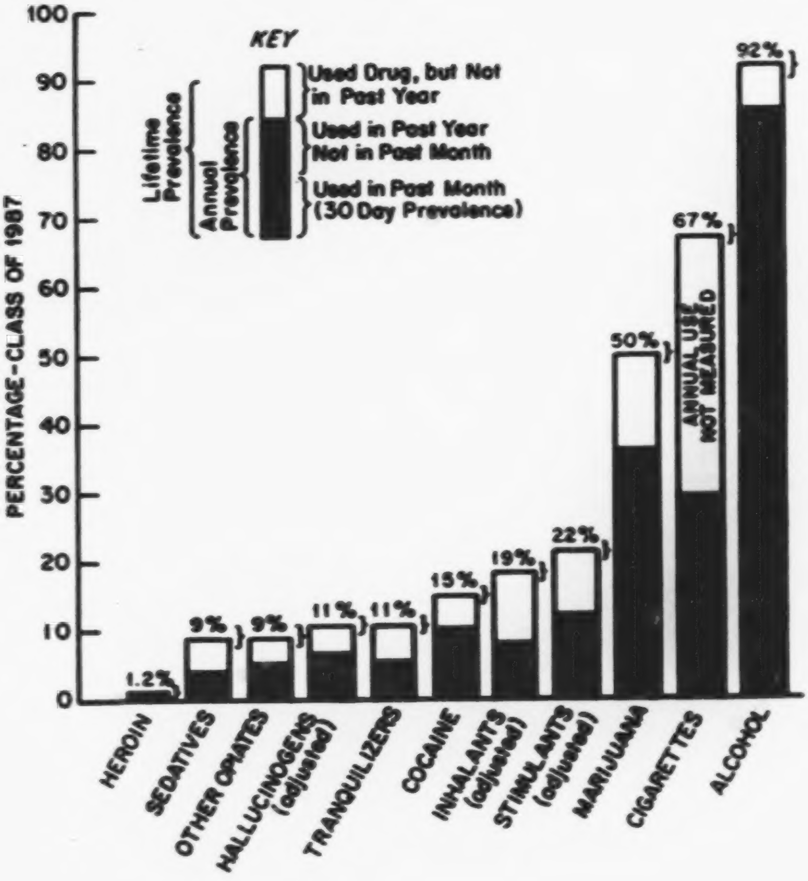
[f] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[g] The combined total for the two columns is shown because the question asked did not discriminate between the two answer categories.

[h] Data based on two questionnaire forms. N is two-fifths of N indicated.

FIGURE 2

Prevalence and Recency of Use
Eleven Types of Drugs, Class of 1987



NOTES: The bracket near the top of a bar indicates the lower and upper limits of the 95% confidence interval.

- Within the general class "sedatives," the specific drug ***methaqualone*** is used by fewer seniors (4% lifetime prevalence) than the other, much broader subclass of sedatives, ***barbiturates*** (7%).

- The illicit drug classes remain in roughly the same order whether ranked by lifetime, annual, or monthly prevalence, as the data in Figure 2 illustrate. The only important change in ranking occurs for ***inhalants***, because use of certain of them, like glues and aerosols, tends to be discontinued at a relatively early age. ***Tranquilizer*** use also ranks lower in terms of annual or current use than it does on lifetime use.

- Use of either of the two major licit drugs, alcohol and cigarettes, remains more widespread than use of any of the illicit drugs. Nearly all students have tried ***alcohol*** (92%) and the great majority (66%) have used it in just the past month.

- Some two-thirds (67%) of seniors report having tried ***cigarettes*** at some time, and nearly one-third (29%) smoked at least some in the past month.

Daily Prevalence

- Frequent use of any of these drugs is of greatest concern from a health and safety standpoint. Tables 7 and 11 and Figure 3 show the prevalence of daily or near-daily use of the various classes of drugs. For all drugs except cigarettes, respondents are considered daily users if they indicate that they had used the drug on twenty or more occasions in the preceding 30 days. In the case of cigarettes, respondents explicitly state the use of one or more cigarettes per day.

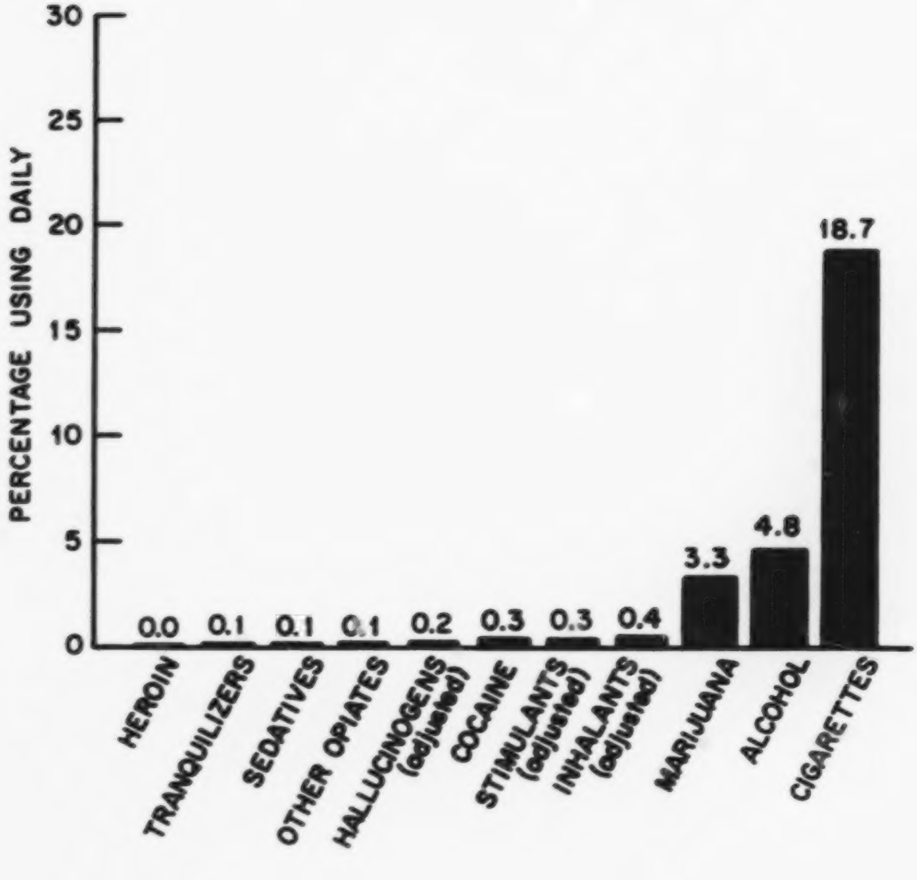
- The displays show that ***cigarettes*** are used daily by more of the respondents (19%) than any of the other drug classes. In fact, 11.4% say they smoke half-a-pack or more per day.

- Another important fact is that ***marijuana*** is still used on a daily or near-daily basis by a substantial fraction of the age group (3.3%), or one in every thirty seniors. A larger proportion (4.8%) drink alcohol that often.

- Less than 1% of the respondents report daily use of any one of the ***illicit drugs other than marijuana***. Still, 0.4% report daily use of ***inhalants*** and 0.3% is the daily use figure for ***cocaine***, ***nitrites***, ***PCP***, and ***amphetamines*** (adjusted version which excludes the nonprescription stimulants). The next highest daily-use figures are for ***hallucinogens*** (adjusted), ***crack***, and ***other forms of cocaine***—all at 0.2%. While very low, these figures are not inconsequential, given that 1% of the high school class of 1987 represents roughly 26,000 individuals.

FIGURE 3

Thirty-Day Prevalence of Daily Use
Eleven Types of Drugs, Class of 1987



- ***Sedatives*, *LSD*, *tranquilizers***, and ***opiates other than heroin*** are used daily by only about 0.1%.

- While daily ***alcohol*** use stands at 4.8% for this age group, a substantially greater proportion report ***occasional heavy drinking***. In fact, 38% state that on at least one occasion during the prior two-week interval they had five or more drinks in a row.

NONCONTINUATION RATES

An indication of the extent to which people who try a drug do not continue to use it can be derived from calculating the percentage, based on those who ever used a drug (once or more), who did not use it the 12 months preceding the survey.[12] These "noncontinuation rates" are provided for all drug classes in Figure 4 for the class of 1987. We use the word "noncontinuation" rather than "discontinuation," since the latter might imply discontinuing an established pattern of use, and our current operational definition includes experimental users as well as established users.

- It may be seen in Figure 4 that noncontinuation rates vary widely among the different drugs.

- The highest noncontinuation rate by senior year (63%) is found for ***methaqualone***, which accounts in part for the recent dramatic decline in overall use.

- ***Marijuana*** has the lowest noncontinuation rate (28%) in senior year of any of the illicit drugs; this occurs because a relatively high proportion of users continue to use at some level over an extended period.

- ***Cocaine*** also has a low noncontinuation rate (32%), but this is partly because of its relatively late age of onset.

- ***Heroin*** and ***PCP*** currently show relatively high noncontinuation rates (58% and 57% respectively). The noncontinuation rate for ***inhalants***, most of which tend to be used at younger ages, also stands at 57%. The ***nitrites*** specifically, however, are used somewhat later, as the lower (45%) noncontinuation rate illustrates.

- The remaining ***illicit drugs*** have noncontinuation rates ranging from 37% to 51%.

- Noncontinuation rates for the two licit drugs are extremely low. ***Alcohol***, which has been tried by nearly all seniors (92%), is used

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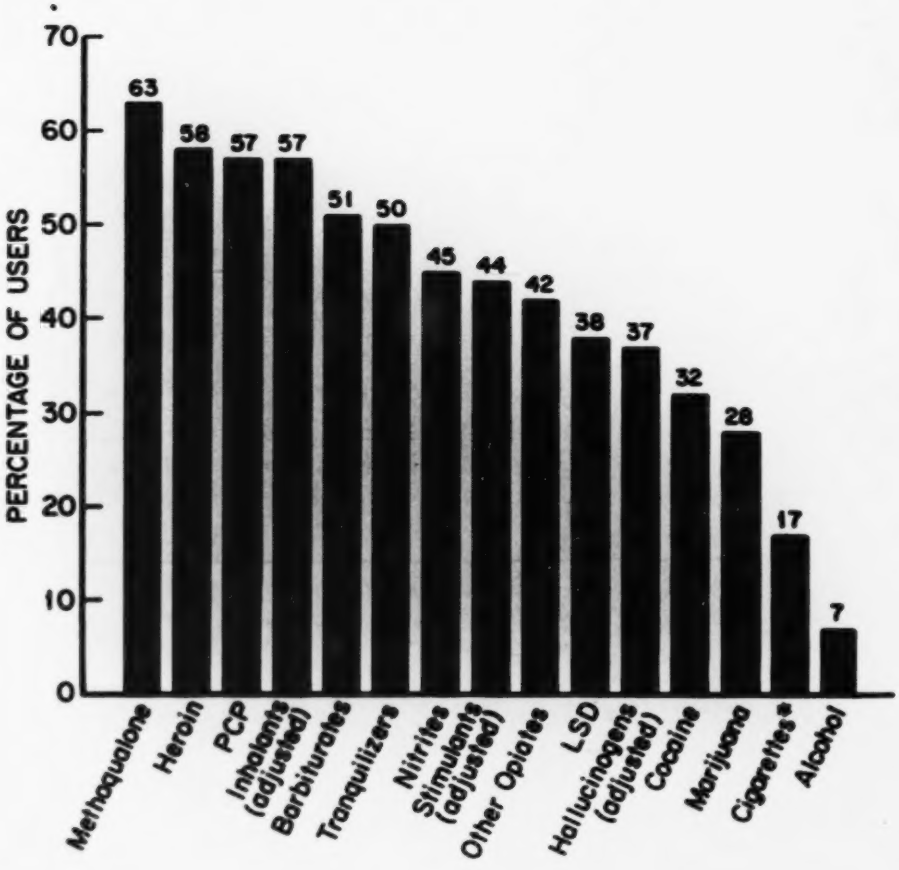
[12] This operationalization of noncontinuation has an inherent problem in that users of a given drug who initiate use in senior year by definition cannot be noncontinuers. Thus, the definition tends to understate the noncontinuation rate, particularly for drugs that tend to be initiated late in high school rather than in earlier years.

FIGURE 4

Noncontinuation Rates: Percent of Seniors Who Used Drug Once or More in Lifetime but Did Not Use in Past Year



***Percent of regular smokers (ever) who did not smoke at all in the last thirty days.**

TABLE 4

Lifetime Prevalence of Use of Eighteen Types of Drugs by Subgroups, Class of 1987

(Entries are percentages)

	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine[b]	"Crack"[b]	Other Cocaine[b]	Heroin	Other Opiates	Stimulants[c] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Cigarettes
All Seniors	50.2	17.0	4.7	10.3	8.4	3.0	15.2	5.6	14.0	1.2	9.2	21.6	8.7	7.4	4.0	10.9	92.2	67.2
Sex:																		
Male	52.0	20.1	6.2	11.3	9.7	3.8	16.5	6.7	15.4	1.6	10.1	20.1	9.3	7.9	4.7	10.5	92.4	65.1
Female	48.0	14.2	3.5	8.9	6.8	2.3	13.6	4.2	12.0	0.8	8.3	22.9	8.0	6.7	3.3	11.0	92.2	68.9
College Plans:																		
None or under 4 yrs	57.0	19.6	5.8	13.1	11.3	4.9	18.4	7.9	14.8	1.5	10.9	28.1	11.2	9.7	5.1	13.1	93.2	74.9
Complete 4 yrs	46.4	15.9	4.3	8.5	6.6	2.0	13.2	3.8	11.9	1.0	8.3	18.4	7.4	6.2	3.4	9.9	92.1	63.0
Region:																		
Northeast	55.7	16.6	5.7	12.6	8.6	3.6	18.5	5.9	17.1	1.2	10.0	19.3	9.7	7.8	5.0	12.4	94.0	70.1
North Central	50.1	17.9	4.2	9.6	8.0	3.0	11.1	4.8	10.9	1.3	8.5	22.9	7.8	6.8	3.4	8.9	93.6	68.0
South	43.6	15.4	3.8	8.3	7.2	2.2	11.3	4.1	9.3	1.2	8.1	20.7	9.0	7.5	4.1	11.7	89.5	64.4
West	55.1	19.2	6.1	11.9	10.7	3.9	23.7	8.9	22.9	1.1	11.0	23.8	8.5	7.4	3.8	10.5	92.8	67.7
Population Density:																		
Large SMSA	53.2	16.3	4.8	13.0	8.9	3.8	18.0	6.7	17.1	1.1	9.1	20.5	8.5	6.9	4.0	11.2	92.1	66.4
Other SMSA	52.0	17.0	4.0	10.0	9.0	2.5	15.7	5.3	13.8	1.3	9.6	22.1	9.0	7.5	4.5	11.1	92.7	66.9
Non-SMSA	43.5	17.9	6.0	8.0	6.8	3.2	11.3	4.9	11.2	1.2	8.5	21.8	8.3	7.4	3.3	10.1	91.3	68.7

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Cocaine data based on five questionnaire forms, "crack" data based on two questionnaire forms, and other cocaine data based on one questionnaire form.

[c] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

in senior year by nearly all of those who have ever tried it (93% of the 92%).

- For ***cigarettes*** the definition of noncontinuation is a little different; it is the percentage of those who say they ever smoked "regularly" who also reported not smoking at all during the past month. Hardly any of these regular smokers (only 17% of them) have ceased active use. (A comparable definition of noncontinuation to that used for other drugs is not possible, since cigarette use in the past year is not asked of respondents.)

PREVALENCE COMPARISONS FOR IMPORTANT SUBGROUPS

Sex Differences

- In general, higher proportions of males than females are involved in illicit drug use, especially heavy drug use; however, this picture is a complicated one (see Tables 4 through 7).

- Overall the proportion using ***marijuana*** is only slightly higher among males, but daily use of marijuana is more than twice as frequent among males (4.3% vs. 2.1% for females).

- Males also have considerably higher prevalence rates on most other illicit drugs. The annual prevalence (Table 5) for ***inhalants*** (unadjusted and adjusted), ***hallucinogens*** (unadjusted and adjusted), ***heroin***, ***methaqualone***, and the specific drugs ***LSD***, ***PCP*** and the ***nitrites*** tend to be one and one-half to two and one-half times as high among males as among females. Males also report somewhat higher annual rates of use than females for ***cocaine*** (primarily ***crack*** cocaine), ***opiates other than heroin***, and ***barbiturates***. Further, males account for an even greater share of the frequent or heavy users of these various classes of drugs.

- Only in the case of ***stimulants*** and ***tranquilizers*** do the annual prevalence rates for females exceed those for males—and then only by small amounts. Annual prevalence for stimulants (adjusted) is 12.4% for females vs. 11.8% for males. This reversal in sex differences is due to the fact that substantially more females than males use stimulants for purposes of weight loss—an instrumental, as opposed to social/recreational, use of the drug.[13] For ***tranquilizers*** the annual prevalence for females is 5.8% vs. 5.2% for males.

- Despite the fact that all but two of the individual classes of illicit drugs are used more by males than by females, the proportions of

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[13] Johnston, L.D. & O'Malley, P.M. (1986). Why do the nation's students use drugs and alcohol? Self-reported reasons from nine national surveys. *Journal of Drug Issues, 16*, 29–66.

TABLE 5

Annual Prevalence of Use of Eighteen Types of Drugs by Subgroups, Class of 1987

(Entries are percentages)

	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine[b]	"Crack"[b]	Other Cocaine[b]	Heroin	Other Opiates	Stimulants[c] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Cigarettes[d]
All Seniors	36.3	6.9	2.6	6.4	5.2	1.3	10.3	4.0	9.8	0.5	5.3	12.2	4.1	3.6	1.5	5.5	85.7	–
Sex:																		
Male	38.6	8.3	3.8	7.5	6.4	1.7	11.3	4.8	10.1	0.7	5.6	11.8	4.6	4.0	2.0	5.2	86.3	–
Female	33.8	5.6	1.7	5.2	3.9	0.9	9.2	3.1	9.1	0.3	4.9	12.4	3.6	3.2	1.0	5.8	85.3	–
College Plans:																		
None or under 4 yrs	40.6	8.0	3.7	7.9	6.6	2.3	12.4	5.5	9.8	0.5	6.1	16.0	5.4	4.7	2.0	6.7	86.5	–
Complete 4 yrs	34.0	6.4	2.1	5.4	4.3	0.8	9.0	2.8	8.3	0.4	4.8	10.2	3.5	3.0	1.2	4.9	85.7	–
Region:																		
Northeast	41.2	6.7	1.8	7.5	5.3	1.1	13.3	4.1	12.9	0.6	6.0	10.4	4.5	4.2	1.5	6.9	88.8	–
North Central	37.4	8.6	2.4	6.9	5.7	1.2	7.5	3.6	8.2	0.6	5.2	13.5	3.8	3.3	1.4	4.5	88.5	–
South	30.2	6.1	2.8	4.8	4.2	1.1	7.0	2.9	5.8	0.4	4.3	11.5	4.4	3.7	1.6	5.7	80.0	–
West	39.6	6.2	3.7	7.4	6.2	2.0	16.4	6.3	15.3	0.5	6.1	13.4	3.8	3.2	1.3	5.2	87.8	–
Population Density:																		
Large SMSA	39.3	6.0	2.1	7.9	5.6	1.3	12.9	4.8	13.3	0.3	5.2	10.9	3.8	3.3	1.3	5.8	85.9	–
Other SMSA	36.9	6.9	2.5	6.3	5.4	1.0	10.1	3.5	8.9	0.6	5.3	11.9	4.2	3.6	1.5	5.6	86.1	–
Non-SMSA	32.2	7.8	3.5	5.3	4.4	1.9	8.1	4.1	8.0	0.5	5.2	14.0	4.4	3.9	1.6	5.2	84.6	–

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Cocaine data based on five questionnaire forms, "crack" data based on two questionnaire forms, and other cocaine data based on one questionnaire form.

[c] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[d] Annual prevalence is not available.

both sexes who report using ***some illicit drug other than marijuana*** during the last year are not substantially different (24% for males vs. 23% for females; see Figure 12). Even if amphetamine use is excluded from the comparisons altogether, fairly comparable proportions of both sexes (20% for males vs. 18% for females) report using some illicit drug other than marijuana during the year. If one thinks of going beyond marijuana as an important threshold point in the sequence of illicit drug use, then nearly equal proportions of both sexes were willing to cross that threshold at least once during the year. However, on the average the female "users" take fewer types of drugs and use them with less frequency than their male counterparts.

- Frequent use of ***alcohol*** tends to be disproportionately concentrated among males. Daily use, for example, is reported by 7.2% of the males vs. only 2.5% of the females. Also, males are more likely than females to drink large quantities of alcohol in a single sitting (i.e., 46% of males report taking five or more drinks in a row in the prior two weeks, vs. 29% of females).

- Finally, at present there is a modest sex difference in ***cigarette*** smoking, with more females smoking. For example, at the level of smoking a half-a-pack or more daily: 12.5% of the females smoke this heavily vs. 10.1% of the males. The proportion reporting ***any*** use during the past month stands at 31% for females vs. 27% for males.

Differences Related to College Plans

- Overall, seniors who are expecting to complete four years of college (referred to here as the "college-bound") have lower rates of illicit drug use than those *not* expecting to do so (see Tables 4 through 7 and Figure 13).

- Annual ***marijuana*** use is reported by 34% of the college-bound vs. 41% of the noncollege-bound.

- There is a substantial difference in the proportion of these two groups using ***any illicit drug(s) other than marijuana*** (adjusted). In 1987, 21% of the college-bound reported any such behavior in the prior year vs. 29% of the noncollege-bound. (If amphetamine use is excluded from these "other illicit drugs," the figures are 17% vs. 22%, respectively.)

- For all of the specific illicit drugs other than marijuana, annual prevalence is higher—sometimes substantially higher—among the noncollege-bound, as Table 5 illustrates. In fact, current (30-day) prevalence is roughly one and one-third to two and one-third times as high among the noncollege-bound as among the college-bound for all of the illicit drugs, with the exceptions of heroin and cocaine other than crack.

TABLE 6

Thirty-Day Prevalence of Use of Eighteen Types of Drugs by Subgroups, Class of 1987

(Entries are percentages)

	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine[b]	"Crack"[b]	Other Cocaine[b]	Heroin	Other Opiates	Stimulants[c] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Cigarettes
All Seniors	21.0	2.8	1.3	2.5	1.8	0.6	4.3	1.5	4.1	0.2	1.8	5.2	1.7	1.4	0.6	2.0	66.4	29.4
Sex:																		
Male	23.1	3.4	2.0	3.1	2.5	0.9	4.9	1.7	3.9	0.3	2.0	5.0	2.0	1.7	0.9	2.0	69.9	27.0
Female	18.6	2.2	0.7	1.8	1.1	0.4	3.7	1.1	4.0	0.1	1.7	5.2	1.3	1.1	0.3	2.0	63.1	31.4
College Plans:																		
None or under 4 yrs	25.1	4.0	2.4	2.8	2.0	1.3	5.3	1.7	3.5	0.2	2.5	7.2	2.4	1.9	0.9	2.4	68.6	39.7
Complete 4 yrs	18.5	2.2	0.8	2.1	1.5	0.3	3.6	1.1	3.4	0.2	1.5	4.0	1.2	1.0	0.4	1.7	65.7	24.3
Region:																		
Northeast	25.3	2.9	0.7	3.5	2.3	0.2	5.4	1.5	5.4	0.2	2.1	5.1	1.7	1.6	0.6	2.6	69.1	34.1
North Central	21.1	3.8	1.5	2.5	1.7	0.6	3.0	1.4	2.7	0.2	1.9	5.8	1.5	1.3	0.7	1.6	70.7	31.7
South	17.3	2.4	1.3	1.9	1.6	0.6	2.9	0.8	2.8	0.1	1.4	4.5	1.9	1.5	0.5	2.2	60.7	26.0
West	22.3	1.9	1.8	2.3	1.5	1.1	7.4	2.7	6.8	0.3	2.3	5.4	1.4	1.2	0.6	1.5	66.7	26.6
Population Density:																		
Large SMSA	23.1	2.0	1.0	3.3	2.1	0.6	5.7	2.0	5.9	0.1	1.9	5.2	1.6	1.3	0.5	2.2	66.3	29.3
Other SMSA	21.3	2.9	0.9	2.3	1.8	0.3	4.1	1.1	3.6	0.2	1.7	4.7	1.6	1.4	0.6	2.1	66.9	28.2
Non-SMSA	18.2	3.3	2.4	2.0	1.4	1.2	3.4	1.7	3.4	0.3	2.0	6.0	1.8	1.6	0.7	1.6	65.5	31.8

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Cocaine data based on five questionnaire forms, "crack" data based on two questionnaire forms, and other cocaine data based on one questionnaire form.

[c] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 7

Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes by Subgroups, Class of 1987

		Percent who used daily in last thirty days			
				Cigarettes	
	N (Approx.)	Marijuana	Alcohol	One or more	Half-pack or more
All Seniors	16300	3.3	4.8	18.7	11.4
Sex:					
Male	7700	4.3	7.2	16.4	10.1
Female	8200	2.1	2.5	20.6	12.5
College Plans:					
None or under 4 yrs	5000	5.2	7.0	29.0	19.5
Complete 4 yrs	10300	2.0	3.6	13.3	7.2
Region:					
Northeast	3500	4.1	4.2	24.8	16.5
North Central	4400	3.1	5.3	20.3	12.3
South	5200	2.9	5.1	15.7	9.4
West	3200	3.4	4.5	14.9	8.1
Population Density:					
Large SMSA	4200	3.8	3.7	20.3	13.1
Other SMSA	8000	3.5	5.4	17.6	10.0
Non-SMSA	4100	2.6	4.8	19.3	12.5

- ***Frequent*** use of many of these illicit drugs shows even larger contrasts related to college plans (see Table 7). ***Daily marijuana*** use, for example, is more than twice as high among those not planning four years of college (5.2%) as among the college-bound (2.0%).

- Frequent ***alcohol*** use is also more prevalent among the noncollege-bound. For example, drinking on a daily basis is reported by 7.0% of the noncollege-bound vs. 3.6% of the college-bound. Instances of heavy drinking are also related to college plans: 35% of the college-bound report having five or more drinks in a row at least once during the preceding two weeks, vs. 43% of the noncollege-bound. Drinking that heavily on six or more occasions in the last two weeks is reported by 3.9% of the college-bound vs. 7.8% of the noncollege-bound. On the other hand, there are practically no differences between these groups in lifetime, annual, or monthly prevalence of alcohol use.

- By far the largest difference in substance use between the college and noncollege-bound involves ***cigarette*** smoking. There is a dramatic difference here, with 7.2% of the college-bound smoking a half-a-pack or more daily compared with 19.5% of the noncollege-bound.

Regional Differences

- There are some fair-sized regional differences in rates of ***illicit drug use*** among high school seniors. (See Figure 5 for a ***regional division*** map of the states included in the four regions of the country.) The highest (adjusted) rate is in the Northeast and West, where 46% say they have used a drug illicitly in the past year, followed closely by the North Central at 43%. The South is by far the lowest, with 36% having used any illicit drug during the year (see Figure 14).

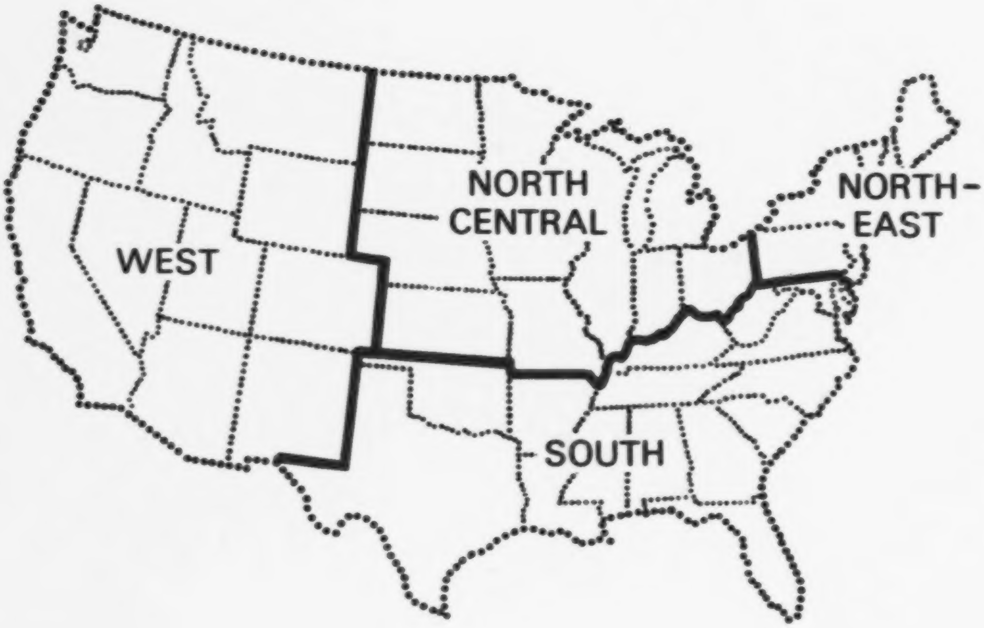
- There are comparable regional variations in terms of the percentage using some ***illicit drug other than marijuana*** (adjusted) in the past year (although the West leads the Northeast for this measure): 30% in the West, 26% in the Northeast, 23% in the North Central, and 21% in the South.

- The West and Northeast rank relatively high in the use of some ***illicit drug other than marijuana***, due in part to their high level of ***cocaine*** use. In fact, the regional differences in cocaine have been the largest observed. For example, annual prevalence is about twice as high in the West (16.4%) and Northeast (13.3%) as in the South (7.0%) or the North Central (7.5%).

- Other specific illicit substances vary in the extent to which they show regional variation, as Table 5 illustrates for the annual prevalence measure.

FIGURE 5

States Included in the Four Regions of the Country


NORTH CENTRAL
NORTH-EAST
WEST
SOUTH

These are the four major regions of the country as defined by the U.S. Bureau of the Census.

Two drugs are highest in the Northeast and lowest in the South with the West and North Central in between: ***marijuana*** and ***hallucinogens*** (unadjusted). The West ranks first on four of the drugs which show the largest proportional variation among the regions: ***cocaine***, ***PCP***, ***LSD*** and the ***nitrites***; but despite its quite high rate of use of these drugs, it is the West that shows the lowest levels of use for ***barbiturates*** and ***methaqualone*** (both central nervous system depressants). For both of these the South shows the highest rate of use, even though it ranks last for seven other illicit drugs. ***Stimulants*** show still a different pattern, with the highest use in the North Central and West and lowest in the Northeast.

- ***Alcohol*** use—in particular, the rate of occasional heavy drinking—tends to be somewhat lower in the South and West than it is in the Northeast and North Central.

- A similar, though much larger, regional difference occurs for regular ***cigarette*** smoking. Smoking half-a-pack or more a day occurs most often in the Northeast (17% of seniors), with the North Central (12%) and the South (9%) somewhat lower, and the West (8%) lower still.

Differences Related to Population Density

- Three levels of population density (or urbanicity) have been distinguished for analytical purposes: (1) large SMSA's, which are the twelve largest Standard Metropolitan Statistical Areas in the 1980 Census; (2) other SMSA's, which are the remaining Standard Metropolitan Statistical Areas; and (3) non-SMSA's, which are the sampling areas not designated as metropolitan by the Census.

- In general, the differences in the use of most illicit drugs across these different sizes of community are small at the present time, reflecting how widely illicit drug use has diffused through the population.

- Overall ***illicit drug use*** is highest in the largest metropolitan areas (44% annual prevalence, adjusted), slightly lower in the other metropolitan areas (43%), and lowest in the nonmetropolitan areas (38%) (see Figure 16).

- Roughly the same ranking occurs for the use of ***illicit drugs other than marijuana***: 25% annual prevalence (adjusted) in the largest cities and in the other cities, and 23% in the nonmetropolitan areas. (With amphetamine use excluded, these numbers drop—to 20%, 19%, and 17%, respectively.)

- For specific drugs, one of the largest absolute differences associated with urbanicity occurs for ***marijuana***, which has an annual prevalence of 39% in the large cities vs. 32% in the nonmetropolitan areas (Table 5).

- However, the greatest proportional difference occurs for ***cocaine***, where there is more than half again as much use in the large metropolitan areas (13%) as in the nonmetropolitan areas (8%). This appears to be due primarily to differences in the use of cocaine in forms other than ***crack***, since crack use shows less variation as a function of population density.

- There has been some tendency for a few other drugs to be associated positively with urbanicity; however, the relationships have not been strong, nor have they remained consistent from one year to another.

- In recent years there has been a tendency for the use of ***stimulants*** to be lowest in the large metropolitan areas and highest in the nonmetropolitan areas (See Table 5).

"CRACK" COCAINE: PREVALENCE RATES AND SUBGROUP DIFFERENCES

Given the importance of crack cocaine in the contemporary American drug scene, we feel it deserves special comment here. Crack cocaine is the form which comes in small chunks or "rocks," which are smoked, thus providing a more rapid and intense high for the user. It came onto the American scene very rapidly during the mid-80's. In the 1986 survey we included for the first time a single question about crack use, but it was contained in only a single questionnaire form and asked only of those indicating some cocaine use during the prior twelve months. In the present survey, 1987, we included our full standard set of three questions asked for each drug (frequency of use in lifetime, last 12 months, and last 30 days) for crack use. These were included in two questionnaire forms (N=6,600).

- Some 5.6% of all seniors indicated having tried ***crack*** at some time in their lives. Most of those (4.0% of all seniors) reported use in the past year, but only 1.5% reported use in the last month. The fact that less than a third of those who have tried crack are still actively using is a somewhat encouraging result, given anecdotal accounts about the rapidly addicting nature of the drug. It should also be noted that about 40% of those using cocaine in the past year (10.3% of all seniors) used cocaine in crack form, usually in addition to powdered cocaine.

- Annual usage rates for crack were half again as high among males (4.8%) as among females (3.1%), but were twice as high among the noncollege-bound (5.5%) as among the college-bound (2.8%).

- Regional differences follow the same pattern as for cocaine generally: annual prevalence is highest in the West (6.3%) and Northeast (4.1%), lower in the North Central (3.6%), and lowest in the South (2.9%).

- The larger cities have a higher rate of annual use (4.8%) than the smaller cities (3.5%) or the non-urban areas (4.1%), but clearly crack has moved well beyond the confines of a few large cities.

Chapter 5

TRENDS IN DRUG USE AMONG HIGH SCHOOL SENIORS

This section summarizes trends in drug use, comparing the thirteen graduating classes of 1975 through 1987. As in the previous section, the outcomes discussed include measures of lifetime use, use during the past year, use during the past month, and daily use. Also, trends are compared among the key subgroups.

TRENDS IN PREVALENCE 1975–1987: ALL SENIORS

- The years 1978 and 1979 marked the crest of a long and dramatic rise in ***marijuana*** use among American high school students. As Tables 8 through 11 illustrate, annual and 30-day prevalence of marijuana use leveled between 1978 and 1979, following a steady rise in the preceding years. In 1980 both statistics dropped for the first time and continued to decline every year, except in 1985 when there was a brief pause. In 1987, both declined significantly and now stand at 15-16% below their all-time highs. Lifetime prevalence, began to drop in 1981, though more gradually. It decreased slightly in 1987, but still is only 10.3% below its all time high. As we will discuss later, there have been some significant changes in the attitudes and beliefs that young people hold in relation to marijuana.

- Of greater importance is the even sharper downward trend which has been continuing to occur for ***daily marijuana use***. Between 1975 and 1978 there was an almost two-fold increase in daily use. The proportion reporting daily use in the class of 1975 (6.0%) came as a surprise to many; and then that proportion rose rapidly, so that by 1978 one in every nine high school seniors (10.7%) indicated that he or she used the drug on a daily or nearly daily basis (defined as use on 20 or more occasions in the last 30 days). In 1979 we reported that this rapid and troublesome increase had come to a halt, with a 0.4% drop occurring that year. By 1987 the daily usage rate has dropped by over two-thirds to 3.3%—or one in every twenty-five seniors—well below the 6% level we first observed in 1975. As later sections of this report document, much of this dramatic reversal appears to be due to a continuing increase in concerns about possible adverse effects from regular use, and a growing perception that peers would disapprove of regular marijuana use.

TABLE 8
Trends in Lifetime Prevalence of Eighteen Types of Drugs

	Percent ever used													
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Approx. N =	(9400)	(15400)	(17100)	(17800)	(15500)	(15900)	(17500)	(17700)	(16300)	(15900)	(16000)	(15200)	(16300)	
Marijuana/Hashish	47.3	52.8	56.4	59.2	60.4	60.3	59.5	58.7	57.0	54.9	54.2	50.9	50.2	−0.7
Inhalants[a]	NA	10.3	11.1	12.0	12.7	11.9	12.3	12.8	13.6	14.4	15.4	15.9	17.0	+1.1
Inhalants Adjusted[b]	*NA*	*NA*	*NA*	*NA*	*18.2*	*17.3*	*17.2*	*17.7*	*18.2*	*18.0*	*18.1*	*20.1*	*18.6*	*−1.5*
Amyl & Butyl Nitrites[c,h]	NA	NA	NA	NA	11.1	11.1	10.1	9.8	8.4	8.1	7.9	8.6	4.7	−3.9sss
Hallucinogens	16.3	15.1	13.9	14.3	14.1	13.3	13.3	12.5	11.9	10.7	10.3	9.7	10.3	+0.6
Hallucinogens Adjusted[d]	*NA*	*NA*	*NA*	*NA*	*17.7*	*15.6*	*15.3*	*14.3*	*13.6*	*12.3*	*12.1*	*11.9*	*10.6*	*−1.3s*
LSD	11.3	11.0	9.8	9.7	9.5	9.3	9.8	9.6	8.9	8.0	7.5	7.2	8.4	+1.2s
PCP[c,h]	NA	NA	NA	NA	12.8	9.6	7.8	6.0	5.6	5.0	4.9	4.8	3.0	−1.8ss
Cocaine	9.0	9.7	10.8	12.9	15.4	15.7	16.5	16.0	16.2	16.1	17.3	16.9	15.2	−1.7s
"Crack"[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.6	NA
Other cocaine[c]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.0	NA
Heroin	2.2	1.8	1.8	1.6	1.1	1.1	1.1	1.2	1.2	1.3	1.2	1.1	1.2	+0.1
Other opiates[e]	9.0	9.6	10.3	9.9	10.1	9.8	10.1	9.6	9.4	9.7	10.2	9.0	9.2	+0.2
Stimulants[e]	22.3	22.6	23.0	22.9	24.2	26.4	32.2	35.6	35.4	NA	NA	NA	NA	NA
Stimulants Adjusted[e,f]	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*27.9*	*26.9*	*27.9*	*26.2*	*23.4*	*21.6*	*−1.8s*
Sedatives[e]	18.2	17.7	17.4	16.0	14.6	14.9	16.0	15.2	14.4	13.3	11.8	10.4	8.7	−1.7ss
Barbiturates[e]	16.9	16.2	15.6	13.7	11.8	11.0	11.3	10.3	9.9	9.9	9.2	8.4	7.4	−1.0
Methaqualone[e]	8.1	7.8	8.5	7.9	8.3	9.5	10.6	10.7	10.1	8.3	6.7	5.2	4.0	−1.2ss
Tranquilizers[e]	17.0	16.8	18.0	17.0	16.3	15.2	14.7	14.0	13.3	12.4	11.9	10.9	10.9	0.0
Alcohol	90.4	91.9	92.5	93.1	93.0	93.2	92.6	92.8	92.6	92.6	92.2	91.3	92.2	+0.9
Cigarettes	73.6	75.4	75.7	75.3	74.0	71.0	71.0	70.1	70.6	69.7	68.8	67.6	67.2	−0.4

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] Data based on four questionnaire forms. N is four-fifths of N indicated.

[b] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c] Data based on a single questionnaire form. N is one-fifth of N indicated.

[d] Adjusted for underreporting of PCP. See text for details.

[e] Only drug use which was not under a doctor's orders is included here.

[f] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[g] Data based on two questionnaire forms. N is two-fifths of N indicated.

[h] Question text changed slightly in 1987.

TABLE 9
Trends in Annual Prevalence of Eighteen Types of Drugs

	Percent who used in last twelve months													
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Approx. N =	(9400)	(15400)	(17100)	(17800)	(15500)	(15900)	(17500)	(17700)	(16300)	(15900)	(16000)	(15200)	(16300)	
Marijuana/Hashish	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	−2.5s
Inhalants[a]	NA	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7	6.1	6.9	+0.8
Inhalants Adjusted[b]	*NA*	*NA*	*NA*	*NA*	*8.9*	*7.9*	*6.1*	*6.6*	*6.2*	*7.2*	*7.5*	*8.9*	*8.1*	*−0.8*
Amyl & Butyl Nitrites[c,h]	NA	NA	NA	NA	6.5	5.7	3.7	3.6	3.6	4.0	4.0	4.7	2.6	−2.1sss
Hallucinogens	11.2	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	+0.4
Hallucinogens Adjusted[d]	*NA*	*NA*	*NA*	*NA*	*11.8*	*10.4*	*10.1*	*9.0*	*8.3*	*7.3*	*7.6*	*7.6*	*6.7*	*−0.9*
LSD	7.2	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4	4.5	5.2	+0.7
PCP[c,h]	NA	NA	NA	NA	7.0	4.4	3.2	2.2	2.6	2.3	2.9	2.4	1.3	−1.1ss
Cocaine	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	−2.4sss
"Crack"[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.1	4.0	−0.1
Other cocaine[c]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.8	NA
Heroin	1.0	0.8	0.8	0.8	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.5	0.0
Other opiates[e]	5.7	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	+0.1
Stimulants[e]	16.2	15.8	16.3	17.1	18.3	20.8	26.0	26.1	24.6	NA	NA	NA	NA	NA
Stimulants Adjusted[e,f]	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*20.3*	*17.9*	*17.7*	*15.8*	*13.4*	*12.2*	*−1.2*
Sedatives[e]	11.7	10.7	10.8	9.9	9.9	10.3	10.5	9.1	7.9	6.6	5.8	5.2	4.1	−1.1ss
Barbiturates[e]	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	−0.6
Methaqualone[e]	5.1	4.7	5.2	4.9	5.9	7.2	7.6	6.8	5.4	3.8	2.8	2.1	1.5	−0.6s
Tranquilizers[e]	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1	5.8	5.5	−0.3
Alcohol	84.8	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6	84.5	85.7	+1.2
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] Data based on four questionnaire forms. N is four-fifths of N indicated.

[b] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c] Data based on a single questionnaire form. N is one-fifth of N indicated.

[d] Adjusted for underreporting of PCP. See text for details.

[e] Only drug use which was not under a doctor's orders is included here.

[f] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[g] Data based on a single questionnaire form in 1986 (N is one-fifth of N indicated), and on two questionnaire forms in 1987 (N is two-fifths of N indicated).

[h] Question text changed slightly in 1987.

TABLE 10
Trends in Thirty-Day Prevalence of Eighteen Types of Drugs

	Percent who used in last thirty days													
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Approx. N =	(9400)	(15400)	(17100)	(17800)	(15500)	(15900)	(17500)	(17700)	(16300)	(15900)	(16000)	(15200)	(16300)	
Marijuana/Hashish	27.1	32.2	35.4	37.1	36.5	33.7	31.6	28.5	27.0	25.2	25.7	23.4	21.0	−2.4s
Inhalants[a]	NA	0.9	1.3	1.5	1.7	1.4	1.5	1.5	1.7	1.9	2.2	2.5	2.8	+0.3
Inhalants Adjusted[b]	*NA*	*NA*	*NA*	*NA*	*3.2*	*2.7*	*2.5*	*2.5*	*2.5*	*2.6*	*3.0*	*3.2*	*3.5*	*+0.3*
Amyl & Butyl Nitrites[c,h]	NA	NA	NA	NA	2.4	1.8	1.4	1.1	1.4	1.4	1.6	1.3	1.3	0.0
Hallucinogens	4.7	3.4	4.1	3.9	4.0	3.7	3.7	3.4	2.8	2.6	2.5	2.5	2.5	0.0
Hallucinogens Adjusted[d]	*NA*	*NA*	*NA*	*NA*	*5.3*	*4.4*	*4.5*	*4.1*	*3.5*	*3.2*	*3.8*	*3.5*	*2.8*	*−0.7*
LSD	2.3	1.9	2.1	2.1	2.4	2.3	2.5	2.4	1.9	1.5	1.6	1.7	1.8	+0.1
PCP[c,h]	NA	NA	NA	NA	2.4	1.4	1.4	1.0	1.3	1.0	1.6	1.3	0.6	−0.7s
Cocaine	1.9	2.0	2.9	3.9	5.7	5.2	5.8	5.0	4.9	5.8	6.7	6.2	4.3	−1.9sss
"Crack"[g]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	NA
Other cocaine[c]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.1	NA
Heroin	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.0
Other opiates[e]	2.1	2.0	2.8	2.1	2.4	2.4	2.1	1.8	1.8	1.8	2.3	2.0	1.8	−0.2
Stimulants[e]	8.5	7.7	8.8	8.7	9.9	12.1	15.8	13.7	12.4	NA	NA	NA	NA	NA
Stimulants Adjusted[e,f]	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*10.7*	*8.9*	*8.3*	*6.8*	*5.5*	*5.2*	*−0.3*
Sedatives[e]	5.4	4.5	5.1	4.2	4.4	4.8	4.6	3.4	3.0	2.3	2.4	2.2	1.7	−0.5s
Barbiturates[e]	4.7	3.9	4.3	3.2	3.2	2.9	2.6	2.0	2.1	1.7	2.0	1.8	1.4	−0.4
Methaqualone[e]	2.1	1.6	2.3	1.9	2.3	3.3	3.1	2.4	1.8	1.1	1.0	0.8	0.6	−0.2
Tranquilizers[e]	4.1	4.0	4.6	3.4	3.7	3.1	2.7	2.4	2.5	2.1	2.1	2.1	2.0	−0.1
Alcohol	68.2	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	+1.1
Cigarettes	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	−0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] Data based on four questionnaire forms. N is four-fifths of N indicated.

[b] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c] Data based on a single questionnaire form. N is one-fifth of N indicated.

[d] Adjusted for underreporting of PCP. See text for details.

[e] Only drug use which was not under a doctor's orders is included here.

[f] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[g] Data based on two questionnaire forms. N is two-fifths of N indicated.

[h] Question text changed slightly in 1987.

TABLE 11
Trends in Thirty-Day Prevalence of Daily Use of Eighteen Types of Drugs

	Percent who used daily in last thirty days													
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change[g]
Approx. N =	(9400)	(15400)	(17100)	(17800)	(15500)	(15900)	(17500)	(17700)	(16300)	(15900)	(16000)	(15200)	(16300)	
Marijuana/Hashish	6.0	8.2	9.1	10.7	10.3	9.1	7.0	6.3	5.5	5.0	4.9	4.0	3.3	−0.7s
Inhalants[a]	NA	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	−0.1
Inhalants Adjusted[b]	*NA*	*NA*	*NA*	*NA*	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.4*	*0.4*	*0.4*	*0.0*
Amyl & Butyl Nitrites[c,i]	NA	NA	NA	NA	0.0	0.1	0.1	0.0	0.2	0.1	0.3	0.5	0.3	−0.2
Hallucinogens	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Hallucinogens Adjusted[d]	*NA*	*NA*	*NA*	*NA*	*0.2*	*0.2*	*0.1*	*0.2*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*0.0*[g]
LSD	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0[g]
PCP[c,i]	NA	NA	NA	NA	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	+0.1
Cocaine	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.3	−0.2[g]
"Crack"[h]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	NA
Other cocaine[c]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2	NA
Heroin	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Other opiates[e]	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Stimulants[e]	0.5	0.4	0.5	0.5	0.6	0.7	1.2	1.1	1.1	NA	NA	NA	NA	NA
Stimulants Adjusted[e,f]	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*0.7*	*0.8*	*0.6*	*0.4*	*0.3*	*0.3*	*0.0*
Sedatives[e]	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0
Barbiturates[e]	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
Methaqualone[e]	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Tranquilizers[e]	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0[g]
Alcohol														
Daily	5.7	5.6	6.1	5.7	6.9	6.0	6.0	5.7	5.5	4.8	5.0	4.8	4.8	0.0
5+ drinks in a row/ last 2 weeks	36.8	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	+0.7
Cigarettes														
Daily	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	0.0
Half-pack or more per day	17.9	19.2	19.4	18.8	16.5	14.3	13.5	14.2	13.8	12.3	12.5	11.4	11.4	0.0

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001. NA indicates data not available.

[a] Data based on four questionnaire forms. N is four-fifths of N indicated.

[b] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c] Data based on a single questionnaire form. N is one-fifth of N indicated.

[d] Adjusted for underreporting of PCP. See text for details.

[e] Only drug use which was not under a doctor's orders is included here.

[f] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[g] Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent classes is due to rounding error.

[h] Data based on two questionnaire forms. N is two-fifths of N indicated.

[i] Question text changed slightly in 1987.

- Until 1978, the proportion of seniors involved in ***any illicit drug use*** had increased steadily, primarily because of the increase in marijuana use. About 54% of the classes of 1978 and 1979 reported having tried at least one illicit drug during the last year, up from 45% in the class of 1975. Between 1979 and 1984, however, the proportion reporting using any illicit drug during the prior year dropped by 1 or 2% annually until 1985, when no further decline was observed. In 1986 the decline resumed, and in 1987 it continued, dropping significantly to 41.7%. The overall decline in the proportion of students having any involvement with illicit drugs appears to be due primarily to the change in marijuana use.

- As Figure 6 and Table 12 illustrate, between 1976 and 1982 there had been a very gradual, steady increase in the proportion who have ever used ***some illicit drug other than marijuana***. The proportion going beyond marijuana in their lifetime had risen from 35% to 45% between 1976 and 1982. Between 1982 and 1987 the revised version of this statistic has declined gradually from 41% to 36%. The annual prevalence of such behaviors (Figure 7), which had risen 9% between 1976 and 1981, leveled in 1982, and then dropped back slightly in each subsequent year to 24% in 1987. But the current (or 30-day) prevalence figures actually began to drop a year earlier—in 1982—and have shown the largest proportional drop (as may be seen in Figure 8 and in Table 12).

- Most of the earlier rise in ***other illicit drug use*** appeared to be due to the increasing popularity of cocaine with this age group between 1976 and 1979, and then due to the increasing use of stimulants between 1979 and 1982. However, as stated earlier, we believe that the upward shift in stimulant use was exaggerated because some respondents included instances of using over-the-counter stimulants in their reports of amphetamine use. (See discussion at the end of the introductory section.) A rather different picture of what trends have been occurring in the proportions using illicit drugs other than marijuana emerges when self-reported amphetamine use is excluded from the calculations altogether. (This obviously understates the percentage using illicits other than marijuana in any given year, but it might yield a more accurate picture of ***trends*** in proportions up through 1982, when new questions were introduced to deal with the problem directly.) Figures 6–8 (and other figures to follow) have been annotated with small markings (◂) next to each year's bar, showing where the shaded area would stop if amphetamine (stimulant) use were excluded entirely. The cross-time trend in these markings shows that the proportion going beyond marijuana to illicits other than amphetamines during the prior year was almost constant between 1975 and 1981. However, this figure began to drop gradually from 24% in 1981 to 21% in 1986, and then more sharply to 19% in 1987. As the popularity of cocaine use began to fall for the first time.

TABLE 12

Trends in Lifetime, Annual, and Thirty-Day Prevalence in an Index of Illicit Drug Use

(Based on Original and Adjusted Amphetamine Questions)[a]

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Approx. N =	(9400)	(15400)	(17100)	(17800)	(15500)	(15900)	(17500)	(17700)	(16300)	(15900)	(16000)	(15200)	(16300)	
	Percent reporting use in lifetime													
Marijuana Only	19.0	22.9	25.8	27.6	27.7	26.7	22.8	20.8	19.7	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	23.3	22.5	21.3	20.9	19.9	20.8	+0.9
Any Illicit Drug Other Than Marijuana[b]	36.2	35.4	35.8	36.5	37.4	38.7	42.8	45.0	44.4	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	41.1	40.4	40.3	39.7	37.7	35.8	–1.9
Total: Any Illicit Drug Use	55.2	58.3	61.6	64.1	65.1	65.4	65.6	65.8	64.1	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	64.4	62.9	61.6	60.6	57.6	56.6	–1.0
	Percent reporting use in last twelve months													
Marijuana Only	18.8	22.7	25.1	26.7	26.0	22.7	18.1	17.0	16.6	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	19.3	19.0	17.8	18.9	18.4	17.6	–0.8
Any Illicit Drug Other Than Marijuana[b]	26.2	25.4	26.0	27.1	28.2	30.4	34.0	33.8	32.5	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	30.1	28.4	28.0	27.4	25.9	24.1	–1.8s
Total: Any Illicit Drug Use	45.0	48.1	51.1	53.8	54.2	53.1	52.1	50.8	49.1	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	49.4	47.4	45.8	46.3	44.3	41.7	–2.6ss
	Percent reporting use in last thirty days													
Marijuana Only	15.3	20.3	22.4	23.8	22.2	18.8	15.2	14.3	14.0	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	15.5	15.1	14.1	14.8	13.9	13.1	–0.8
Any Illicit Drug Other Than Marijuana[b]	15.4	13.9	15.2	15.1	16.8	18.4	21.7	19.2	18.4	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	17.0	15.4	15.1	14.9	13.2	11.6	–1.6ss
Total: Any Illicit Drug Use	30.7	34.2	37.6	38.9	38.9	37.2	36.9	33.5	32.4	–	–	–	–	
Adjusted Version	–	–	–	–	–	–	–	32.5	30.5	29.2	29.7	27.1	24.7	–2.4ss

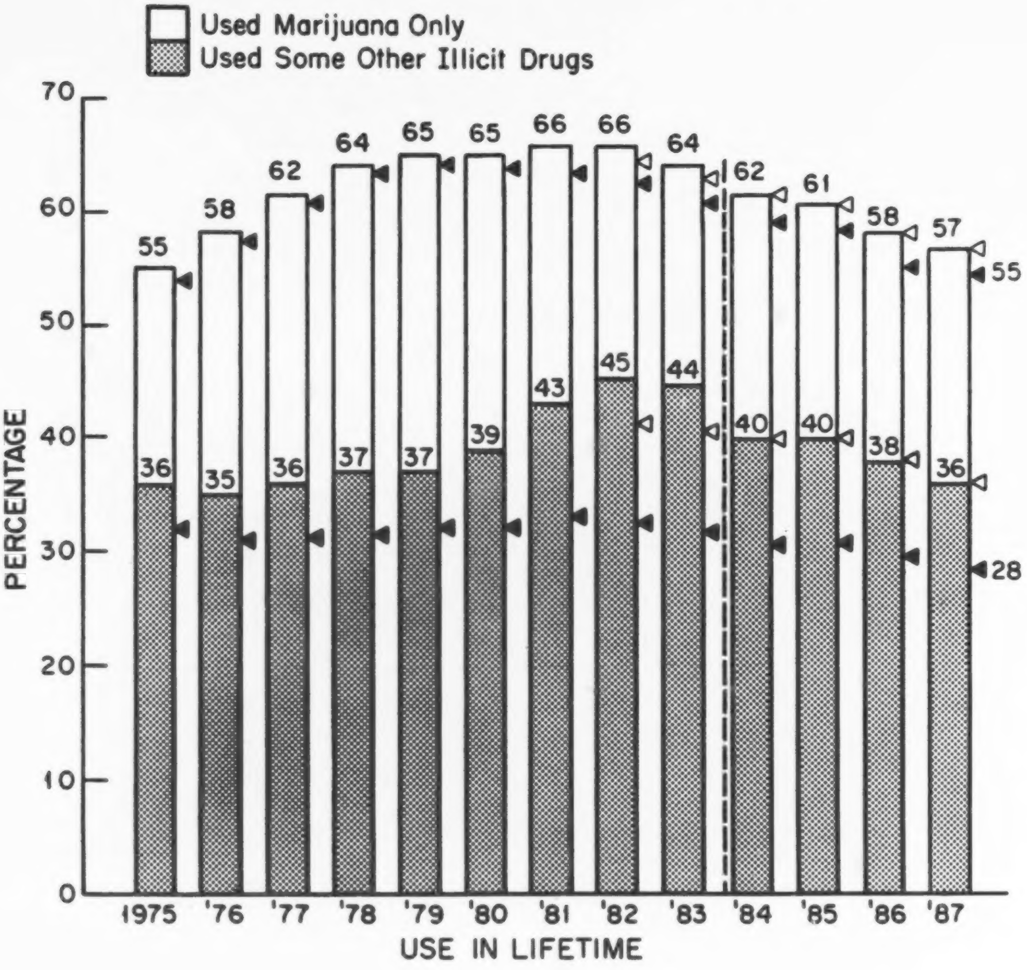
NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001.

[a] Adjusted questions about stimulant use were introduced in 1982 to exclude more completely the inappropriate reporting of non-prescription stimulants.

[b] Use of "other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, sedatives, or tranquilizers not under a doctor's orders.

FIGURE 6

Trends in Lifetime Prevalence of an Illicit Drug Use Index
All Seniors



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◂ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◃ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the amphetamine questions which were revised to exclude non-prescription stimulants from the definition of "illicit drugs."

- Thus, with stimulants excluded from the calculations entirely, we are able to see a gradual drop between 1981 and 1984 in the proportion of seniors using illicit drugs other than marijuana, following an extended period of virtually level use. With stimulants (including the incorrectly reported ones) included in the definition, we also see a downturn in recent years, but this time following a period of considerable increase. Finally, using the corrected stimulant statistics for 1982 and thereafter (marked with the symbol (◁) in Figures 6–8), we still see the downturn in recent years, but it follows a period of what we deduce to have been only a modest increase in use from the mid-seventies to 1982.

- Although the overall proportion using illicit drugs other than marijuana has changed rather gradually during recent years, greater fluctuations have occurred for specific drugs within the class. (See Tables 8, 9, and 10 for trends in lifetime, annual, and monthly prevalence figures for each class of drugs.)

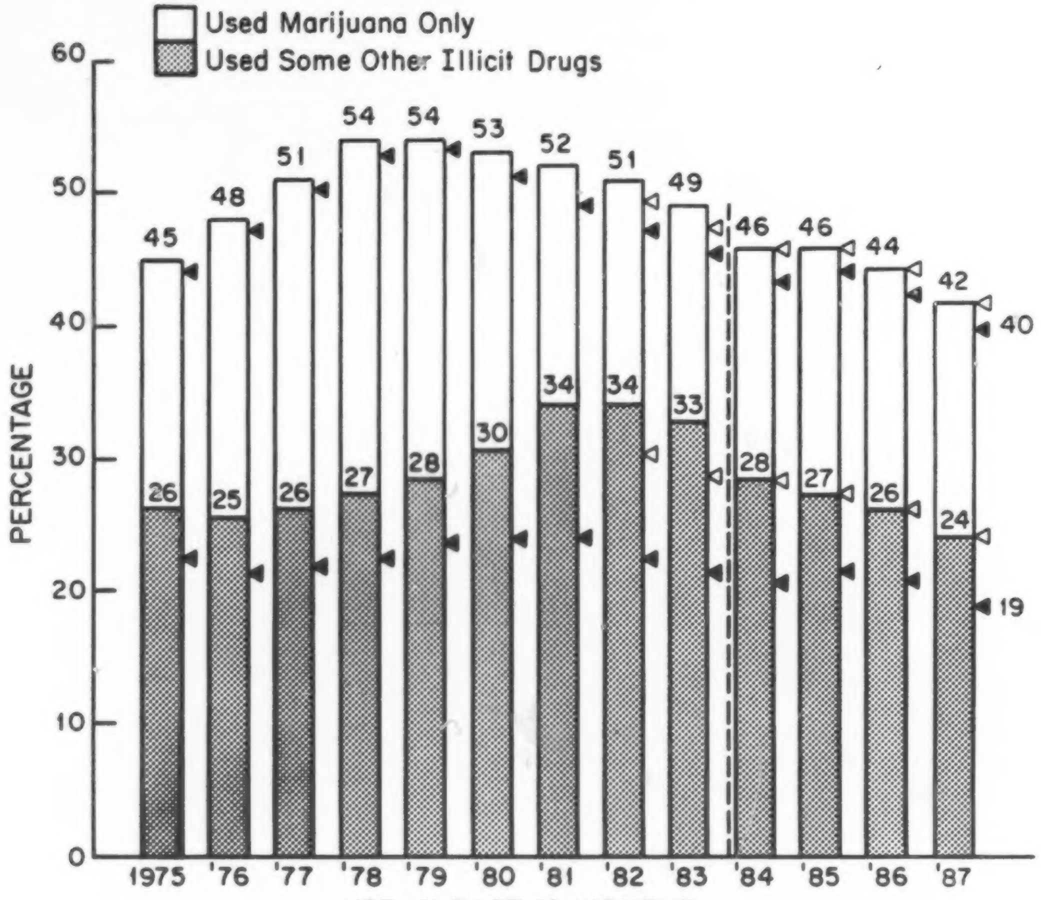
- From 1976 to 1979 ***cocaine*** exhibited a substantial increase in popularity, with annual prevalence going from 6% in the class of 1976 to 12% in the class of 1979—a two-fold increase in just three years. For the nation as a whole, we judge there to have been little or no change in any of the cocaine prevalence statistics between 1979 and 1984. (Some possible regional changes will be discussed below.) In 1985, however, we reported statistically significant increases in annual and monthly use. While these measures did not show further increase in 1986, it is noteworthy that they did not drop by a statistically significant amount either, considering the amount of adverse publicity cocaine use was receiving by then. However, in 1987 both levels of use decreased significantly, with annual use decreasing from 12.7% in 1986 to 10.3% in 1987 and monthly use decreasing from 6.2% to 4.3% over the same period.

- Use of ***crack cocaine*** was measured by only a single question in 1986, which was contained in one questionnaire form and asked only of those who reported any use of cocaine in the past 12 months. It simply asked if crack was one of the forms of cocaine they had used. It is thus an estimate of annual prevalence.

  But other indicators gathered routinely in the study show some indirect evidence of the rapid spread of this form of the drug prior to 1986. For example, we found that (a) the proportion of seniors reporting that they smoked cocaine (as well as having used in the past year) doubled between 1983 and 1986 from 2.5% to 6.0%, (b) there was also a doubling in the same period (from 0.4% to 0.8%) in the proportion of all seniors who said that they both had used cocaine during the prior year and had at some time been unable to stop using when they tried to stop, and (c) there was a doubling between 1984 and 1986 in the proportion of seniors reporting active daily use (from 0.2% to 0.4%). We think it likely that the

FIGURE 7

Trends in Annual Prevalence of an Illicit Drug Use Index
All Seniors



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◂ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◃ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the amphetamine questions which were revised to exclude non-prescription stimulants from the definition of "illicit drugs."

advent of crack use during this period contributed to these developments.

In 1987 we introduced into two questionnaire forms the standard set of three questions (about crack use) which are used for all other classes of drugs reported here, and which ask separately about frequency of use in lifetime, past 12 months, and past 30 days.

- The annual ***crack*** prevalence measured by the 1986 question was 4.1%, which is virtually identical to the 4.0% yielded by the 1987 question on annual prevalence. This strongly suggests that crack did not continue to spread in the high school population, as had been widely feared, but leveled out in 1987—probably for the same reason that overall cocaine use began to decline. (No trend data yet exist for the lifetime or 30-day prevalence periods, which in 1987 stand at 5.6% and 1.5%, respectively.)

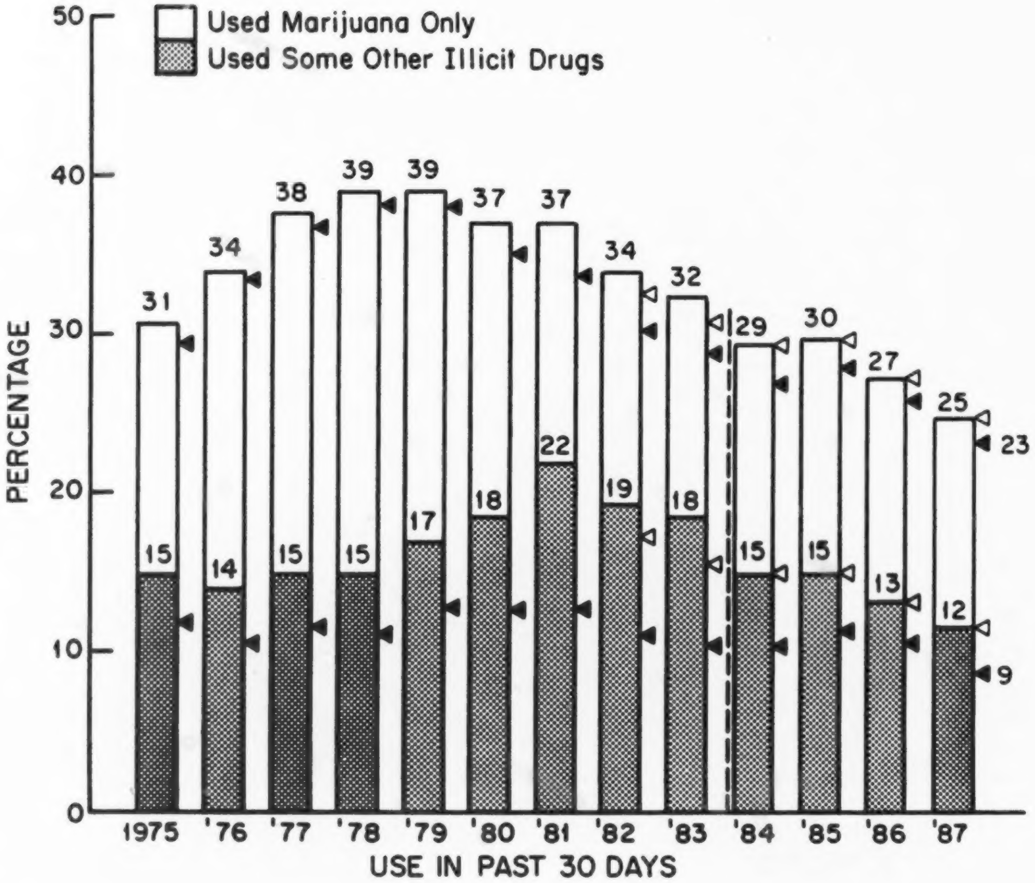
  In fact, the overall population prevalence remained stable despite further diffusion of the crack phenomenon: In 1986 about half (52%) of all schools in the national sample had some positive prevalence for crack use; and this statistic rose to 77% in 1987. Thus, it seems quite possible that in 1987 crack actually began to decline in those communities where it already was present, but that the decline was offset by its diffusion to new communities which it had not previously reached.

- It is important to note that ***crack*** use may be disproportionately located in the out-of-school population relative to most other drugs. (The same is likely true for PCP and heroin, as well.) Whether similar trends are taking place in that population remains an open question. In general, it would seem likely that the trends there would parallel those seen in the majority of the population the same age, but one could imagine some exceptions.

- Like cocaine use, ***inhalant*** use had been rising steadily in the late 1970's, though more slowly. Annual prevalence (in the unadjusted version) rose from 3.0% in 1976 and reached a peak of 5.4% in 1979. Then, between 1979 and 1983, there was an overall decline in the adjusted version —in part due to a substantial drop in the use of the ***amyl and butyl nitrites***, for which annual prevalence declined from 6.5% in 1979 to 3.6% in 1983. Both measures increased between 1983 and 1986, with annual use for inhalants (adjusted for use of nitrites) increasing from 6.2% in 1983 to 8.9% in 1986, with the nitrites increasing less, from 3.6% to 4.7%. In 1987 annual inhalant use (adjusted) dropped to 8.1%, and nitrites use also dropped significantly, to 2.6%. Current (30-day) use of inhalants increased slightly by 0.3%, while nitrite use remained unchanged. There was a minor wording change in the nitrite question in 1987, but a close examination of the data indicates that the change had little or no effect on responses. (The changed wording consisted of dropping examples of nitrites from the stem of the

FIGURE 8

Trends in Thirty-Day Prevalence of an Illicit Drug Use Index
All Seniors



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

◀ indicates the percentage which results if all stimulants are excluded from the definition of "illicit drugs." ◁ shows the percentage which results if only non-prescription stimulants are excluded.

The dashed vertical line indicates that after 1983 the shaded and open bars are defined by using the amphetamine questions which were revised to exclude non-prescription stimulants from the definition of "illicit drugs."

questions on use; the examples were retained in a prior question on friends' use of nitrites.) The sharp decrease in 1987 in lifetime and annual nitrite use, following a smaller increase in 1986, appears likely due in part to chance sample fluctuations in 1986 and 1987. The lack of significant change in monthly prevalence further suggests that the extent of real change in the population is somewhat less than indicated. Nevertheless, the long term trend in nitrite use is clearly down since the peak years of 1979–1980. The gradual convergence of the unadjusted and adjusted inhalant prevalence rates (see Figure 9b) suggests that an increasing proportion of nitrite users are including their use of these inhalants in their answers to the general question about inhalant use.

- ***Stimulant*** (amphetamine) use, which had remained relatively unchanged between 1975 and 1978, began to show evidence of a gradual increase in use in 1979, with even greater increases to occur in 1980 and 1981. Between 1976 and 1981, reported annual prevalence rose by a full 10.2% (from 15.8% in 1976 to 26.0% in 1981); and daily use tripled, from 0.4% in 1976 to 1.2% in 1981. As stated earlier, we think these increases were exaggerated—perhaps sharply exaggerated—by respondents in the 1980 and 1981 surveys in particular including nonamphetamine, over-the-counter diet pills (as well as "look-alike" and "sound-alike" pills) in their answers. In 1982, we added new versions of the questions on amphetamine use, which were more explicit in instructing respondents not to include such nonprescription pills. (These were added to only three of the five forms of the questionnaire being used; the amphetamine questions were left unchanged in the other two forms until 1984.) As a result, Tables 8 through 12 give two estimates for amphetamines: one is based on the unchanged questions, which provides comparable data across time for longer-term ***trend*** estimates; the second (adjusted) estimate, based on the revised questions, provides our best assessments of current prevalence and recent trends in true amphetamine use.[14]

  As can be seen in 1982 and 1983, the two years for which both adjusted and unadjusted statistics are available, the unadjusted showed a modest amount of overreporting. Both types of statistics, however, suggest that a downturn in the current use of stimulants began to occur in 1982 and has continued since. For example, between 1982 and 1987 the annual prevalence for amphetamines (adjusted) fell by roughly four-tenths, from 20% to 12%. Current use fell by half. Still, in the class of 1987 more than a fifth of all seniors (21.6%) have tried amphetamines (adjusted), even though the decline continues.

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[14] We think the unadjusted estimates for the earliest years of the survey were probably little affected by the improper inclusion of nonprescription stimulants, since sales of the latter did not burgeon until after the 1979 data collection.

- For ***sedatives*** the sustained, gradual decline between 1975 and 1979 halted in 1980 and 1981. For example, annual prevalence, which dropped steadily from 11.7% in 1975 to 9.9% in 1979, increased slightly to 10.5% by 1981. In 1982, though, the longer-term decline resumed again and annual prevalence has now fallen to 4.1% (dropping significantly from 5.2% in 1986). In sum, annual sedative use has dropped by nearly two-thirds since the study began in 1975. But, the overall trend lines for sedatives mask differential trends occurring for the two components of the measure (see Figure 9c). ***Barbiturate*** use has declined rather steadily since 1975, and now stands at only one-third its 1975 level in terms of annual prevalence (i.e., at 3.6% vs. 10.7% in 1975). ***Methaqualone*** use, on the other hand, rose sharply from 1978 until 1981. (In fact, it was the only drug other than stimulants that was still rising in 1981.) But in 1982, the use of methaqualone also began to decline, which accounted for the overall sedative category resuming its decline. Annual use dropped significantly in 1987 and now stands at one-fifth of its peak level observed by 1981 (1.5% in 1987 vs. 7.6% in 1981).

- The usage statistics for ***tranquilizers*** (Figure 9b) peaked in 1977, and have declined since then. Lifetime prevalence has dropped from 18% in 1977 to 11% in 1987, annual prevalence from 11% to 6%, and 30-day prevalence from 4.6% to 2.0%. However, the rate of decline has tapered off considerably since 1984 for both the annual and 30-day measures.

- Between 1975 and 1979 the prevalence of ***heroin*** use had been dropping rather steadily (Figure 9e). Lifetime prevalence dropped from 2.2% in 1975 to 1.1% in 1979 and annual prevalence had also dropped by half, from 1.0% in 1975 to 0.5% in 1979. This decline halted in 1980 and the statistics have remained almost constant since then.

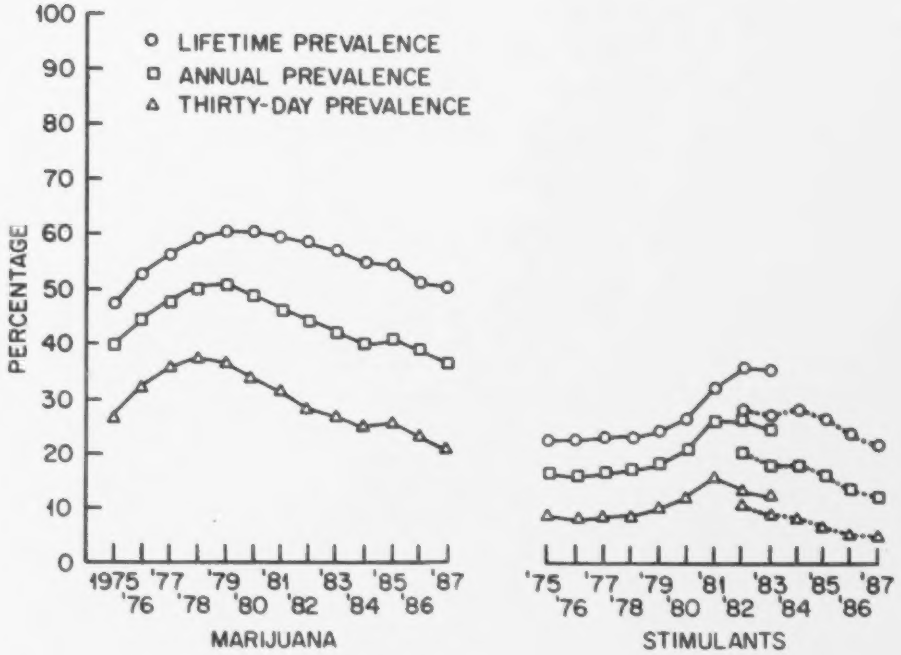
- From 1975 to 1981 the use of ***opiates other than heroin*** remained fairly stable, with annual prevalence at or near 6%. Annual prevalence then declined slightly to 5.3% in 1982, and has remained relatively stable since.

- ***Hallucinogen*** use (unadjusted for underreporting of PCP) declined some in the middle of the seventies (from 11.2% in 1975 to 9.6% in 1978 on annual prevalence). (See Figure 9d.) It then leveled for several years before beginning another sustained decline. Between 1979, when the first figures adjusted for the underreporting of PCP were available, and 1984, there was a steady decline, with adjusted annual prevalence dropping from 11.8% in 1979 to 7.3% in 1984. These rates then remained level at 7.6% in 1985 and 1986 but dropped to 6.7% in 1987.

- ***LSD***, one of the major drugs comprising the hallucinogen class, showed a modest decline from 1975 to 1977, followed by con-

FIGURE 9a

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs
All Seniors



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

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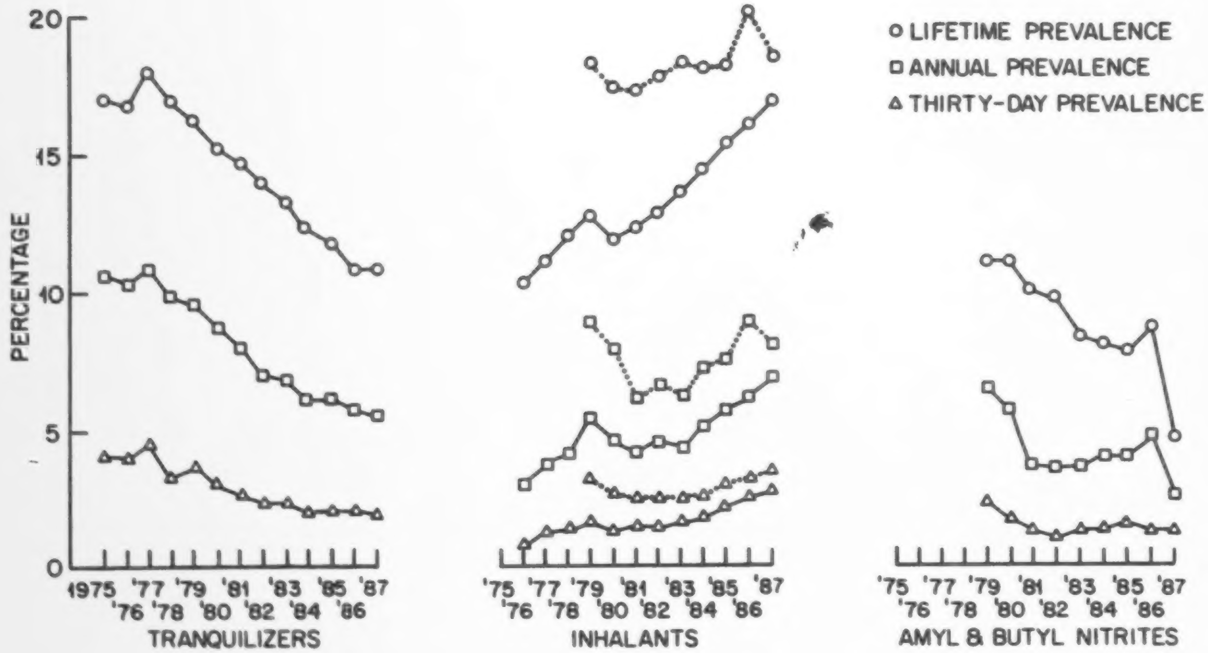
FIGURE 9b

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs
All Seniors



NOTE: The dotted lines connect percentages which are adjusted for underreporting of amyl and butyl nitrites.

FIGURE 9c

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs
All Seniors

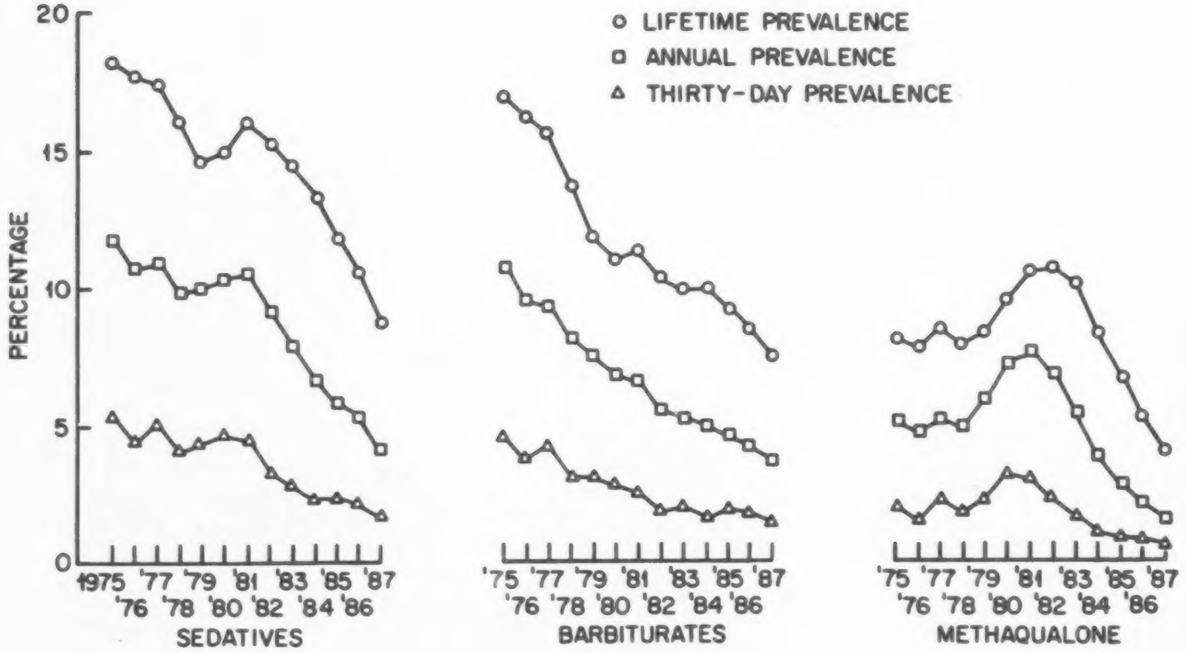


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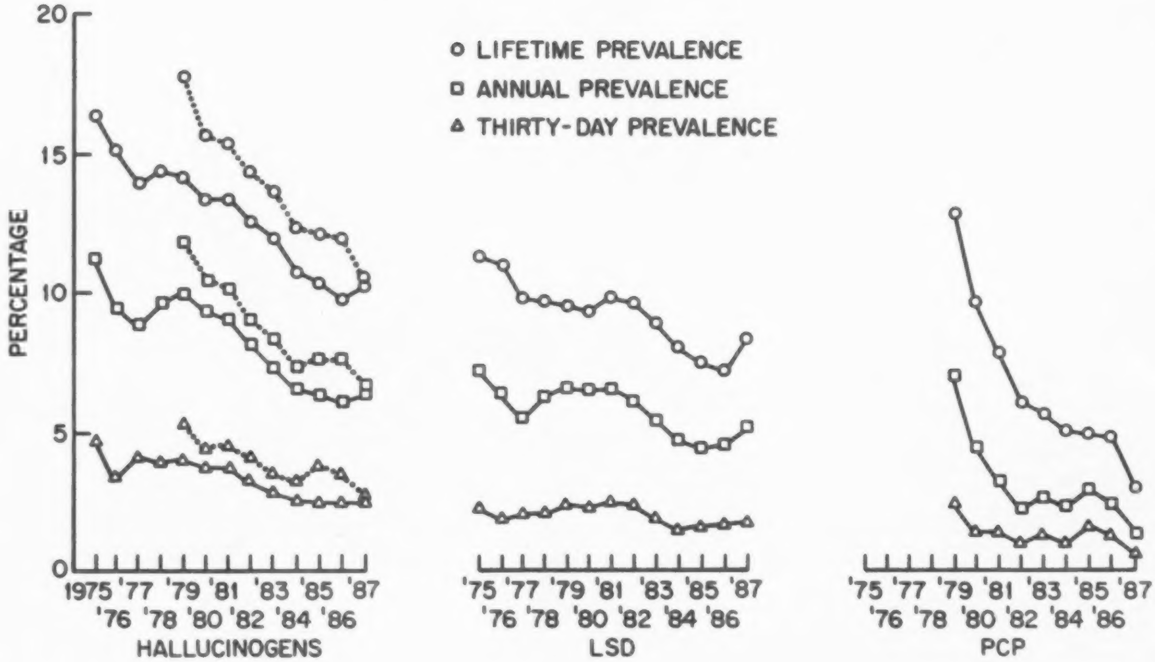
FIGURE 9d

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs
All Seniors



NOTE: The dotted lines connect percentages which are adjusted for underreporting of PCP.

FIGURE 9e

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs
All Seniors

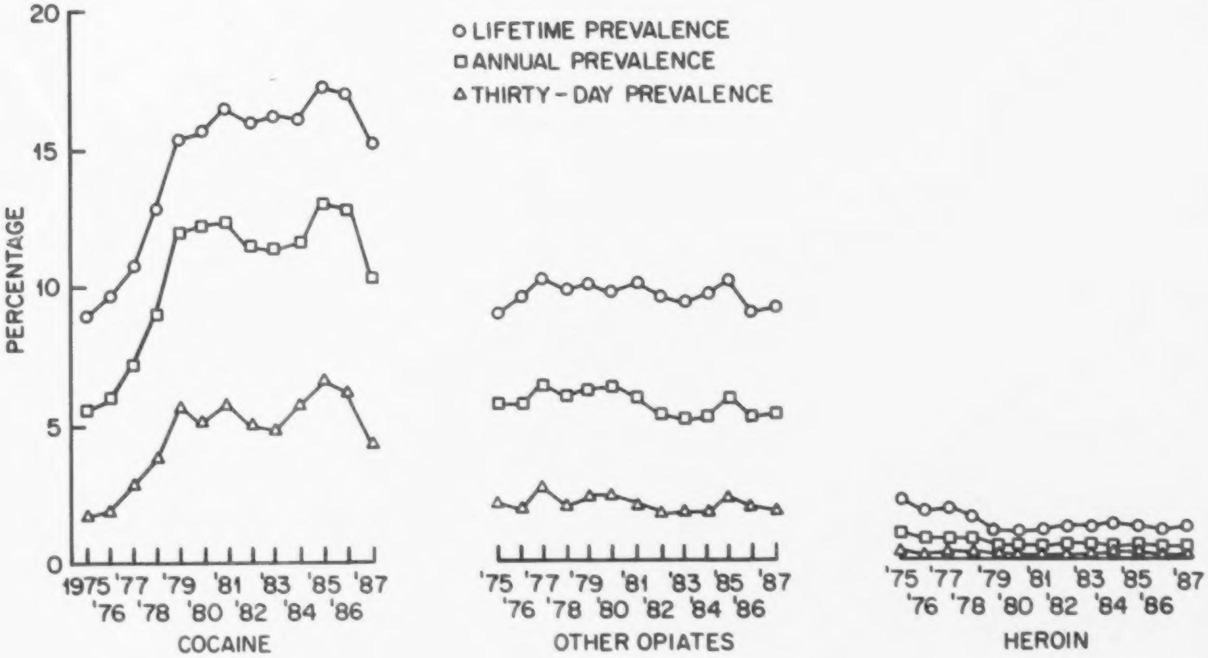


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FIGURE 9f

Trends in Lifetime, Annual, and Thirty-Day Prevalence of Sixteen Drugs
All Seniors

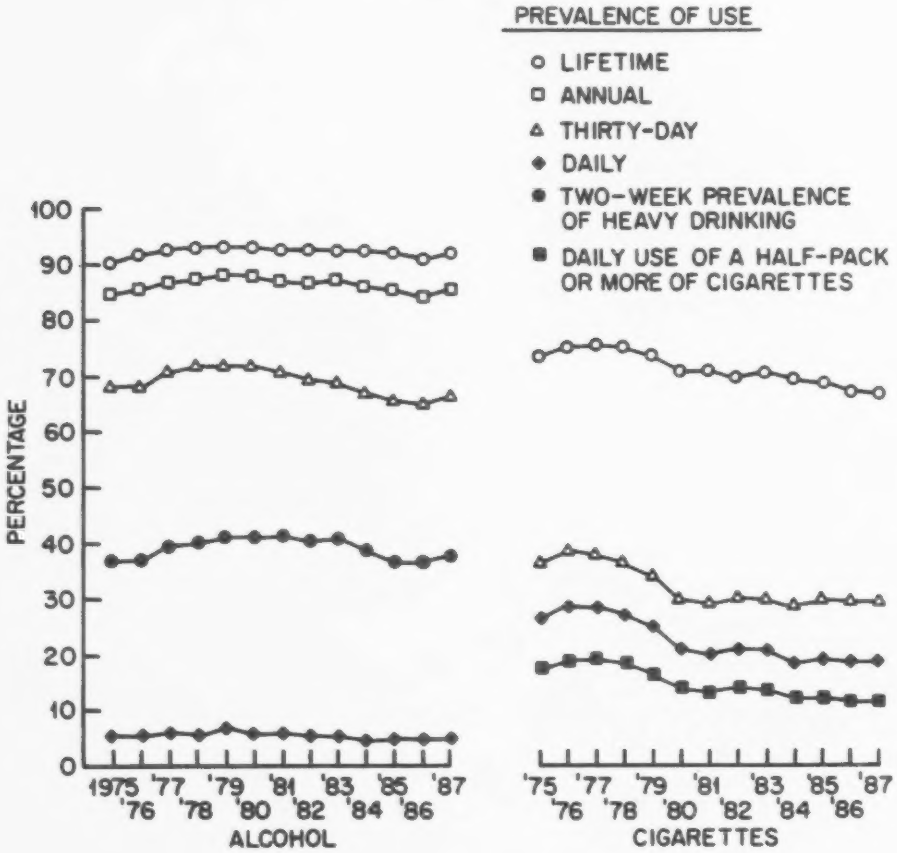
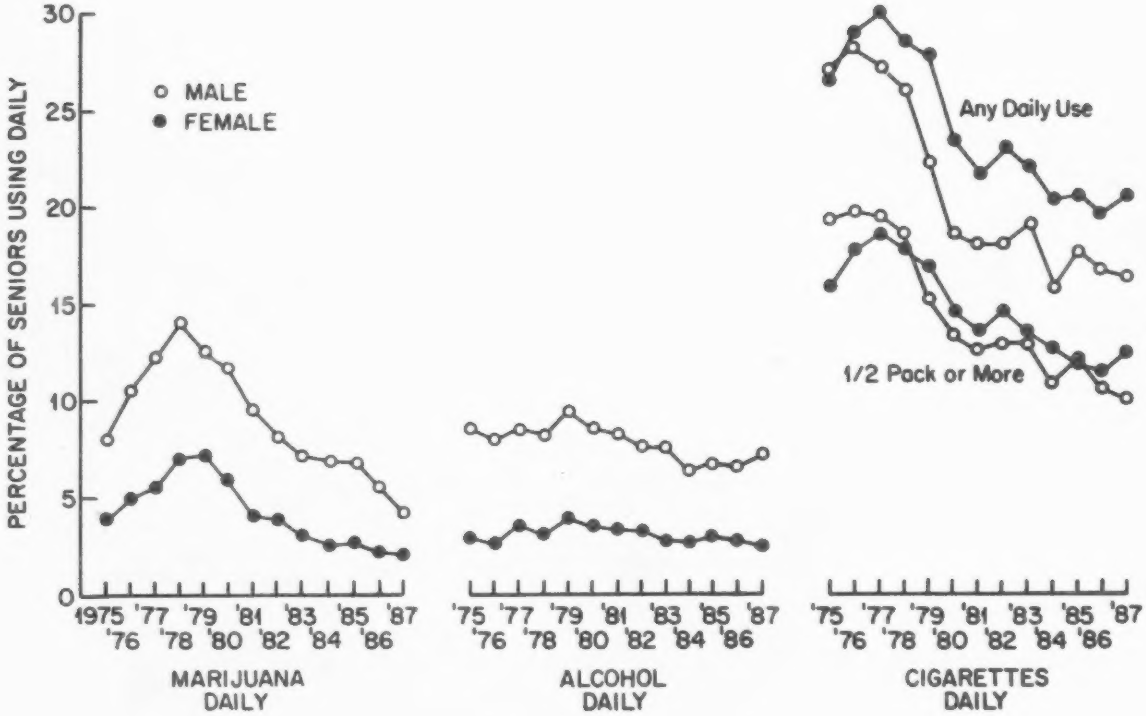


FIGURE 10

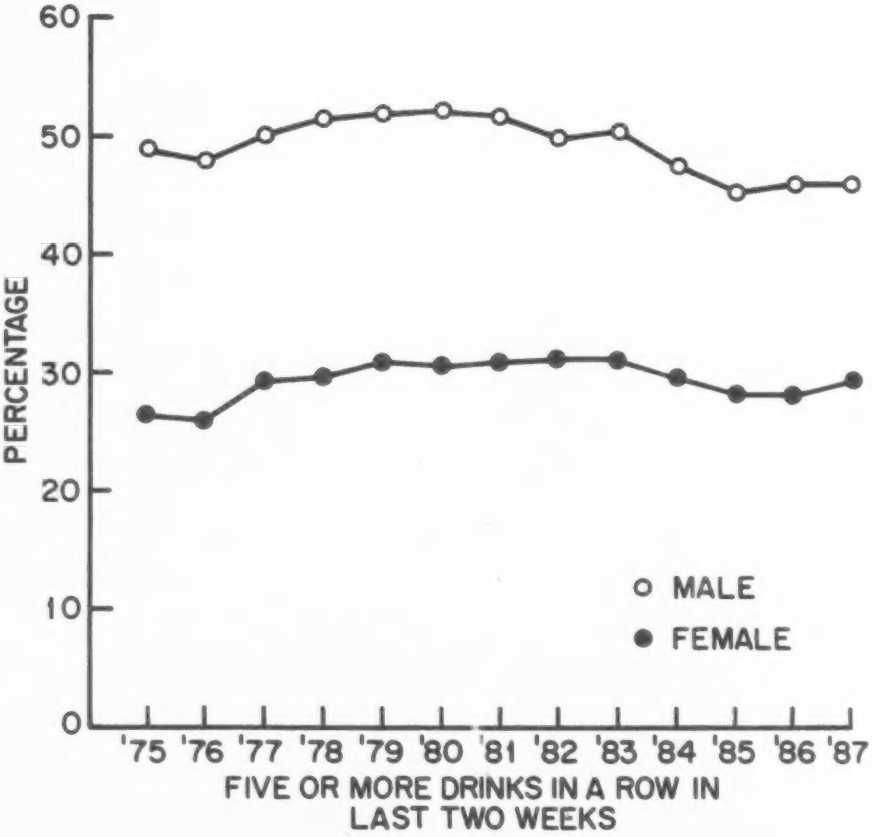
Trends in Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes
by Sex



NOTE: Daily use for alcohol and marijuana is defined as use on 20 or more occasions in the past thirty days. Daily use of cigarettes is defined as smoking one or more cigarettes per day in the past thirty days.

FIGURE 11

Trends in Two-Week Prevalence of Heavy Drinking Among Seniors
by Sex



siderable stability through 1981. Between 1981 and 1985, however, there was a second period of decline, with annual prevalence falling from 6.5% in 1981 to 4.4% in 1985. This decline seems to have halted in 1986, with annual prevalence at 4.5%, and the 1987 annual prevalence increased slightly to 5.2%.

- The lifetime prevalence statistic for the specific hallucinogen ***PCP*** showed a continuation of the steady and very substantial decrease which began in 1979 when we first measured the use of this drug. Lifetime prevalence dropped from 12.8% in the class of 1979 to 5.0% in the class of 1984. It has since inched downward to 4.8% in 1986 and then dropped significantly in 1987 (to 3.0%). The annual and 30-day statistics for PCP, after declining sharply from 1979 to 1984, have resumed their decline, dropping significantly in 1987.

- As can be seen from these varied patterns for the several classes of illicit drugs, while the overall proportion of seniors using ***any*** illicit drugs in their lifetime other than marijuana or amphetamines has changed rather little over the years, the mix of drugs they are using has changed. A number of drug classes have shown dramatic declines (sedatives, stimulants, tranquilizers, PCP), some have shown moderate declines (marijuana, and most recently cocaine), and some have remained fairly stable (heroin, other opiates) or even increased some (inhalants).

- Turning to the licit drugs, between 1975 and 1978 or 1979 there was a small upward shift in the prevalence of ***alcohol*** use among seniors. (See Figure 9f.) To illustrate, between 1975 and 1979 the annual prevalence rate rose steadily from 85% to 88%, the monthly prevalence rose from 68% to 72%, and the daily prevalence rose from 5.7% to 6.9%. Since 1979, there has been virtually no drop in lifetime prevalence, but some drop for the more recent prevalence intervals: between 1979 and 1985, annual prevalence fell from 88% to 86%, monthly prevalence from 72% to 66%, and daily prevalence from 6.9% to 5.0%. (Clearly the change in daily use is the most important of these shifts.) However, since 1985 there has really been no further change in these measures.

- There was a similar pattern observed in the frequency of ***occasional heavy drinking*** (Figure 9f). When asked whether they had taken five or more drinks in a row during the prior two weeks, 37% of the seniors in 1975 said they had. This proportion rose gradually to 41% by 1979, where it remained through 1983. In both 1984 and 1985, we observed drops of 2% in this troublesome statistic, to 37%, exactly where it was in 1975; but there has been no further change since.

- Thus, to answer a frequently asked question, there is no evidence that the drop in marijuana use observed in recent years is leading to a concomitant increase in alcohol use. If anything, there has been some parallel decline in daily alcohol use as well as in occasional heavy drinking.

- As for ***cigarette*** use, 1976 and 1977 appear to have been the years of peak smoking rates in this age group, as measured by lifetime, 30-day, and daily prevalence. (Annual prevalence is not asked.) Over the four subsequent graduating classes, 30-day prevalence dropped substantially from 38% in the class of 1977 to 29% in the class of 1981. (See Tables 10 and 11 and Figure 9f.) More importantly, ***daily cigarette use*** dropped over that same interval from 29% to 20%, and daily use of half-pack-a-day or more from 19.4% to 13.5% between 1977 and 1981 (nearly a one-third decrease). In 1981 we reported that the decline appeared to be decelerating; in 1982 and 1983 it clearly had halted. There was a brief resumption of the earlier decline in 1984, with daily use falling from 21% to 19%, and daily use of half-pack-a-day dropping from 13.8% to 12.3%. Since 1984, there has been practically no change in most of these statistics, with the exception that smoking at the half-pack-a-day level fell by under 1.0%, from 12.3% in 1984 to 11.4% in 1986 where it remains in 1987. What seems most noteworthy is the lack of appreciable decline in the smoking rates since 1981, despite (a) the general decline which has occurred for most other drugs (including alcohol), (b) some rise in the perceived harmfulness and personal disapproval associated with smoking, and (c) the considerable amount of restrictive legislation which has been debated and enacted at state and local levels in the past several years.

TRENDS IN NONCONTINUATION RATES

Table 13 shows how the user noncontinuation rates observed for the various classes of drugs have changed over time. Recall that the noncontinuation rate, as used here, is defined as the percentage of those who ever used the drug who did not use in the year prior to the survey.

- For ***most drugs*** there has been relatively little change in noncontinuation rates among those who have tried the drug at least once. There are some noticeable exceptions, however.

- ***Marijuana*** has shown some increase in the noncontinuation rates between 1979 (when it was 16%) and 1984 (when it was 27%). This is what gave rise to the greater drop in annual use than in lifetime use described earlier. Since 1984, there has been no further increase in the noncontinuation rate for marijuana.

- The noncontinuation rate for ***cocaine*** decreased from 1976 (when it was 38%) to 1979 (when it was 22%), corresponding to the period of increase in the overall prevalence of use. It then remained fairly stable through 1986, corresponding to a period of stability in the actual prevalence statistics. In 1987 use began to fall for the first

TABLE 13
Trends in Noncontinuation Rates Among Seniors Who Ever Used Drug in Lifetime

	Percent who did not use in last twelve months												
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987
Marijuana/Hashish	15.4	15.7	15.6	15.2	15.9	19.1	22.5	24.5	25.8	27.1	25.1	23.8	27.7
Inhalants	NA	70.9	66.7	65.8	57.5	61.3	66.7	64.8	68.4	64.6	63.0	61.6	59.4
Adjusted	NA	NA	NA	NA	50.8	55.7	65.5	63.3	64.4	58.4	59.8	55.7	56.5
Nitrites	NA	NA	NA	NA	41.4	48.6	63.4	63.3	57.1	50.6	49.4	45.3	44.7
Hallucinogens	31.3	37.7	36.7	32.9	29.8	30.1	32.3	35.2	38.7	39.3	38.8	38.1	37.9
Adjusted	NA	NA	NA	NA	31.2	32.5	35.7	38.0	36.7	40.6	36.9	36.1	36.8
LSD	36.3	41.8	43.9	35.1	30.5	30.1	33.7	36.5	39.3	41.3	41.3	37.5	38.1
PCP	NA	NA	NA	NA	45.3	54.2	59.0	63.3	53.6	54.0	40.8	50.0	56.7
Cocaine	37.8	38.1	33.3	30.2	22.1	21.7	24.8	28.1	29.6	28.0	24.3	24.9	32.2
Heroin	54.5	55.6	55.6	50.0	54.5	54.5	54.5	50.0	50.0	61.5	50.0	54.5	58.3
Other Opiates	36.7	40.6	37.9	39.4	38.6	35.7	41.6	44.8	45.7	46.4	42.2	42.2	42.4
Stimulants	27.4	30.1	29.1	25.3	24.4	21.2	19.3	26.7	30.5	NA	NA	NA	NA
Adjusted	NA	NA	NA	NA	NA	NA	NA	27.2	33.5	36.6	39.7	42.7	43.5
Sedatives	35.7	39.5	37.9	38.1	32.2	30.9	34.4	40.1	45.1	50.4	50.8	50.0	52.9
Barbiturates	36.7	40.7	40.4	40.9	36.4	38.2	41.6	46.6	47.5	50.5	50.0	50.0	51.4
Methaqualone	37.0	39.7	38.8	38.0	28.9	24.2	28.3	36.4	46.5	54.2	58.2	59.6	62.5
Tranquilizers	37.6	38.7	40.0	41.8	41.1	42.8	45.6	50.0	48.1	50.8	48.7	46.8	49.5
Alcohol	6.2	6.7	5.9	5.8	5.3	5.7	6.0	6.5	5.7	7.1	7.2	7.4	7.0
Cigarettes[a]	16.0	16.7	16.2	17.9	19.6	21.4	20.8	19.1	18.6	18.5	15.9	17.0	17.1

[a] Percentage of regular smokers (ever) who did not smoke at all in the last thirty days.

time, and Table 13 shows that this was due in part to an increased rate of quitting. The noncontinuation rate increased from 25% to 32%.

- There was considerably more noncontinuation of ***stimulant*** use in 1987 (44%) than in 1982 (when it was 27%), based on the revised usage questions. Earlier data (based on the unrevised questions), suggest that the change began after 1981.

- Much of the recent decline in ***sedative*** use is also accounted for by a changing rate of noncontinuation. For example, in the case of ***barbiturates*** the noncontinuation rate rose between 1979, when it was around 36%, to 1984 when it was around 50%—where it has remained since.

  Similarly, in 1980 24% of the seniors who ever used ***methaqualone*** did not use in the prior year, whereas the comparable statistic by 1987 was more than twice as high, at 63%.

- ***Tranquilizer*** users showed a steady, gradual increase in noncontinuation between 1975 and 1982, as the rate rose from 38% to 50%. Since 1982 there has not been any further systematic change, however.

- Table 14 provides noncontinuation rates for seniors who were more established users—that is, for those who report having used the drug ten or more times in their life. It shows that noncontinuation is far less likely among such heavier users than among all users of a given drug. Further, while the trends in noncontinuation mentioned above for ***marijuana***, ***cocaine***, ***stimulants***, ***barbiturates***, ***methaqualone***, and ***tranquilizers*** are all similar to trends observed in the noncontinuation rates for heavier users of those same drugs, the percentage fluctuations tend to be considerably smaller among the heavier users.

COMPARISONS AMONG SUBGROUPS IN TRENDS IN PREVALENCE

Sex Differences in Trends

- Most of the sex differences mentioned earlier for individual classes of drugs have remained relatively unchanged over the past twelve years—that is, any trends in overall use have been fairly parallel for both males and females. There are, however, some exceptions (tabular data not shown).

- The absolute and ratio differences between the sexes in ***marijuana*** use have narrowed somewhat during the eighties from what they were in the seventies, although both sexes have seen a decline in use since 1979.

TABLE 14

Trends in Noncontinuation Rates Among Seniors Who Used Drug Ten or More Times in Lifetime

	Percent who did not use in last twelve months												
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987
Marijuana/Hashish	4.0	4.0	4.1	3.7	4.6	5.4	7.2	7.6	8.3	8.8	7.8	7.9	9.2
Inhalants	NA	48.9	42.6	34.6	23.8	25.2	23.8	27.2	23.1	23.4	25.8	15.3	21.1
Nitrites*													
Hallucinogens	10.8	16.1	15.2	10.8	8.1	8.4	7.7	7.5	13.0	14.1	12.2	11.1	11.9
LSD	15.2	17.3	18.0	12.2	7.4	6.4	7.1	7.5	15.3	12.1	12.6	12.2	11.5
PCP*													
Cocaine	7.7	8.2	6.2	3.8	3.1	3.1	3.1	2.9	6.2	3.1	2.5	3.5	7.6
Heroin*													
Other Opiates	9.6	11.6	9.7	9.9	8.7	10.8	10.1	13.5	16.4	15.4	12.2	13.8	15.6
Stimulants	8.0	9.8	7.6	7.4	6.1	4.1	4.4	6.4	7.5	NA	NA	NA	NA
Adjusted	NA	NA	NA	NA	NA	NA	NA	8.4	10.7	12.7	17.5	17.6	17.5
Sedatives	13.6	16.2	12.4	12.8	8.6	10.5	7.6	8.6	16.4	20.8	23.6	19.7	23.1
Barbiturates	13.4	16.5	12.9	13.5	11.2	11.7	8.9	12.6	17.7	22.8	20.6	19.7	20.7
Methaqualone	13.5	15.9	11.9	13.1	6.1	6.0	4.9	8.0	16.3	23.3	26.7	24.9	32.2
Tranquilizers	12.0	13.0	11.1	14.4	14.1	14.3	16.3	16.0	14.8	18.8	19.2	15.0	17.1
Alcohol	0.6	0.8	0.6	0.9	0.7	0.8	1.0	0.9	0.9	1.1	1.2	1.0	1.1

*The cell entries in these rows were omitted because they were based on fewer than 100 seniors who used ten or more times. All other cells contain more than 100 cases.

- Since 1977, the small sex difference involving ***tranquilizer*** use (males this age had used them less frequently than females) have virtually disappeared.

- The ratio of male-female prevalence rates in ***cocaine*** use, which was rather large in the mid-1970's, diminished somewhat in the early 1980's and narrowed further during the 1987 downturn in use. Although the differences have lessened, males still use more frequently than females.

- Regarding ***stimulant*** use, a sex difference emerged in 1981 and 1982 using the original version of the question; but the revised question introduced in 1982 showed no sex difference, suggesting that over-the-counter diet pills accounted for females showing higher use in those two years. In 1987, with the revised version of the question, females show slightly higher rates of use of stimulants due to their more frequent use of amphetamines for the purpose of weight loss. Both sexes have shown declines in use of stimulants since 1984.

- An examination of the trends in the proportion of each sex using ***any illicit drug*** in the prior year (see Figure 12) shows that use among males rose between 1975 and 1978, and then declined steadily until 1986 (from 59% in 1978 to 43% in 1987). Use among females increased from 1975 (41%) until 1981 (51%) and then dropped through 1987 (40%). However, if amphetamine use is deleted from the statistics (see ◂ notations in Figure 12), female use peaked earlier (in 1979) and then declined as well. (Note that the declines for both males and females were attributable largely to the declining marijuana use rates.)

- Regarding the apparent parity between the sexes in the levels and trends in the use of ***illicit drugs other than marijuana***, it can be seen in Figure 12 that, when amphetamine use is excluded from the calculations, somewhat differential levels emerge for males vs. females but the trends tend to remain fairly parallel. In 1987, males' use decreased significantly by 2.1% and females' use by 1.0%.

- The sex differences in ***alcohol*** use have narrowed slightly since 1975. For example, the sex differences in annual prevalence have been virtually eliminated. The 30-day prevalence rates for males and females differed by 12.8% in 1975 (75.0% vs. 62.2%, respectively), but that difference was down to 6.8% by 1986 (69.9% vs. 63.1%). And, although there still remain substantial sex differences in daily use and occasions of heavy drinking, there has been some narrowing of the differences there, as well (Figure 11). For example, between 1975 and 1985 the proportion of males admitting to having five drinks in a row during the prior two weeks showed a net decrease of 3.7% from (49.0% to 45.3%), whereas a net increase of 1.8% occurred for females, from 26.4% to 28.2%. (Both sexes have shown about a 1% increase since then.)[15]

Although males are far more likely than females to have five or more drinks in a row during the prior two weeks (46% vs. 29%), there is practically no difference in the proportion of them who had at least one drink during that same interval (42.4% vs. 44.3%). Thus, it is the propensity to drink a lot per occasion that differs between male and female high school seniors, more than the propensity to drink at all.

- On one of the five questionnaire forms used in the study, respondents are asked separately about their use of beer, wine, and hard liquor. The answers to these questions reveal that it is primarily a differential rate of beer consumption that accounts for the large sex differences in occasions of heavy drinking: 45% of 1987 senior males report having five or more ***beers*** in a row during the prior two weeks vs. 23% of the females. In contrast, males are only somewhat more likely than females to report having 5 or more drinks of ***hard liquor*** (25% for males vs. 16% for females) and females are actually more apt to drink ***wine*** that heavily (12.8% for females vs. 12.2% for males). This pattern—a large sex difference in heavy use of beer, a much smaller difference in heavy use of hard liquor, and very little difference in heavy use of wine—has been present throughout the study, with little systematic change over time.

- Regarding ***cigarette*** smoking, we observed in 1977 that females for the first time caught up to males at the half-a-pack per day smoking level (Figure 10 given earlier). Then, between 1977 and 1981, both sexes showed a decline in the prevalence of such smoking; but use among males dropped more, resulting in a reversal of the sex differences. As of 1986, females led males in smoking at least a half-pack per day (11.6% vs. 10.7%), and this trend continued in 1987 with females at 12.5% and males at 10.1%. The percentages smoking a pack or more also follow this trend, with females at 6.1% and males at 5.6%. However, at less frequent levels of smoking, there is a somewhat larger sex difference, since there are more occasional smokers among females than among males. For example, in 1987, 31% of the females report smoking at least once in the prior 30 days, vs. 27% of the males.

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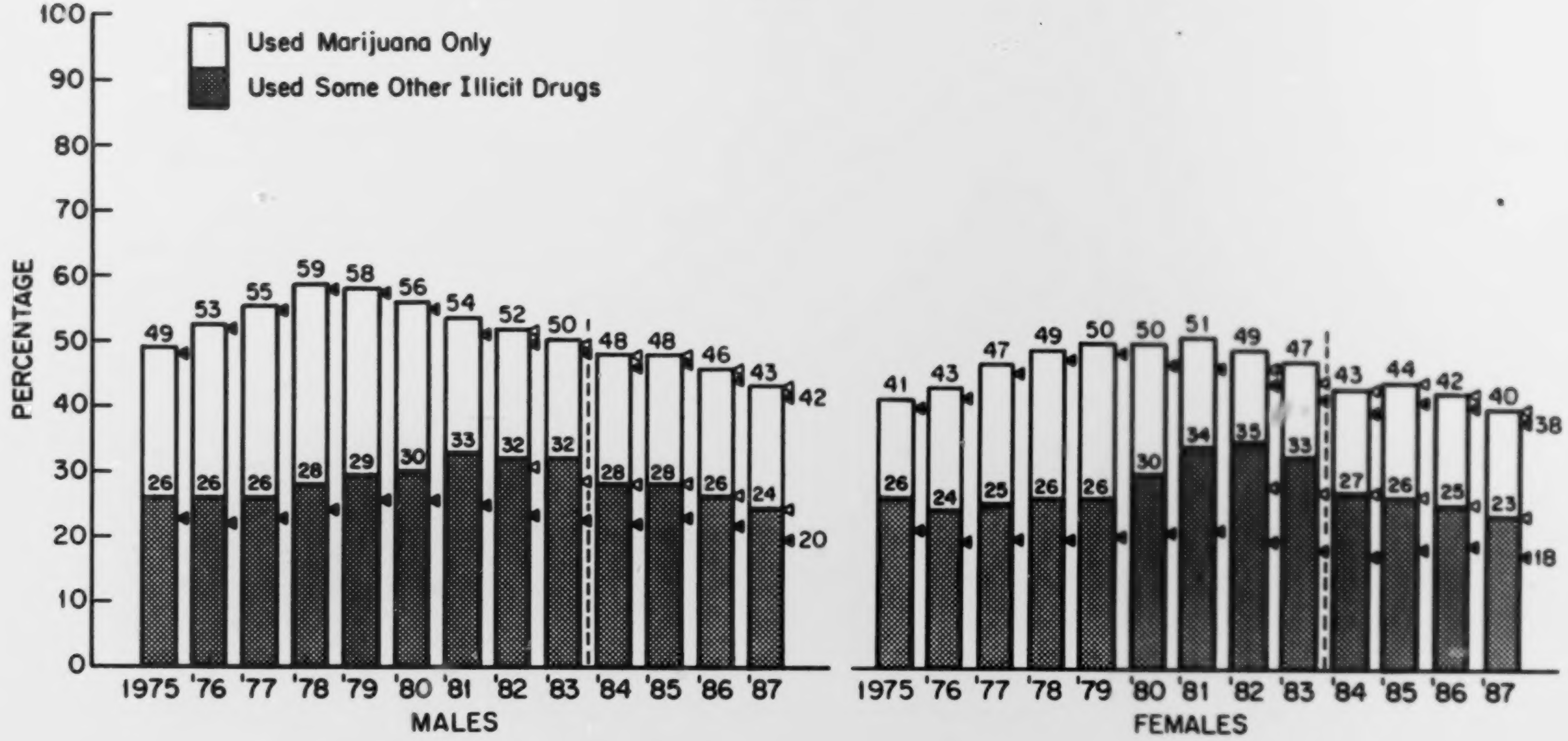
[15] It is worth noting that the same number of drinks produces substantially greater impact on the blood alcohol level of the average female than the average male, because of sex differences in body weight. Thus, sex differences in frequency of actually getting drunk may not be as great as the binge drinking statistics would indicate, since they are based on a fixed number of drinks.

FIGURE 12

Trends in Seniors' Annual Prevalence of an Illicit Drug Use Index
by Sex



NOTE: See Figure 8 for relevant footnotes.

Trend Differences Related to College Plans

- Both college-bound and noncollege-bound students have been showing fairly parallel trends in overall ***illicit drug use*** over the last several years (see Figure 13).[16]

- Changes in use of the ***specific drug classes*** have also been generally quite parallel for the two groups since 1976, with only minor exceptions. (Data not shown.) Between 1983 and 1986 annual ***cocaine*** use increased very little among the college-bound, but rose by about one-quarter among the noncollege-bound, perhaps due to the greater popularity of the new cocaine form called "crack" among the noncollege-bound. In 1987 annual cocaine use dropped significantly for both college- and noncollege-bound groups, though by more among the latter.

- Before 1981 a fair-sized difference existed between these two groups in their levels of ***inhalant*** use, both adjusted and unadjusted, with the noncollege group using more. Between 1981 and 1985 there was relatively little difference, but a fair-sized difference has developed again since 1985.

Regional Differences in Trends

- In terms of the proportion of seniors using ***any illicit drug*** during the year, all four regions of the country reached their peaks in 1978 or 1979 (Figure 14), and generally have been falling since then.

- As noted earlier, a major factor in the rise of ***illicit drug use other than marijuana*** had been an increase in reported ***amphetamine*** use. Such a rise appeared in all four regions; however, the rise in lifetime prevalence from 1978 to 1981 was only 6% in the South, whereas in the other regions the percentages all had risen between 9% and 12%. In essence, the South has been least affected by both the rise and the fall in reported amphetamine use.

- When amphetamine use is excluded, as shown by the arrow (◂) in Figure 14, a rather different picture appears for regional trends during the late seventies and early eighties than the picture given by the shaded bars (which include all reported amphetamine use). Use of ***illicits other than marijuana or amphetamines*** actually started to decline in the South and North Central in 1981—both regions having had fairly level rates of use prior to that. Rates in the West and the Northeast did not begin their decline until a year later (1982), after a period of some increase in student involvement with such drugs (but not as great an increase as the unadjusted figures would suggest). Since 1983 this statistic has been fairly

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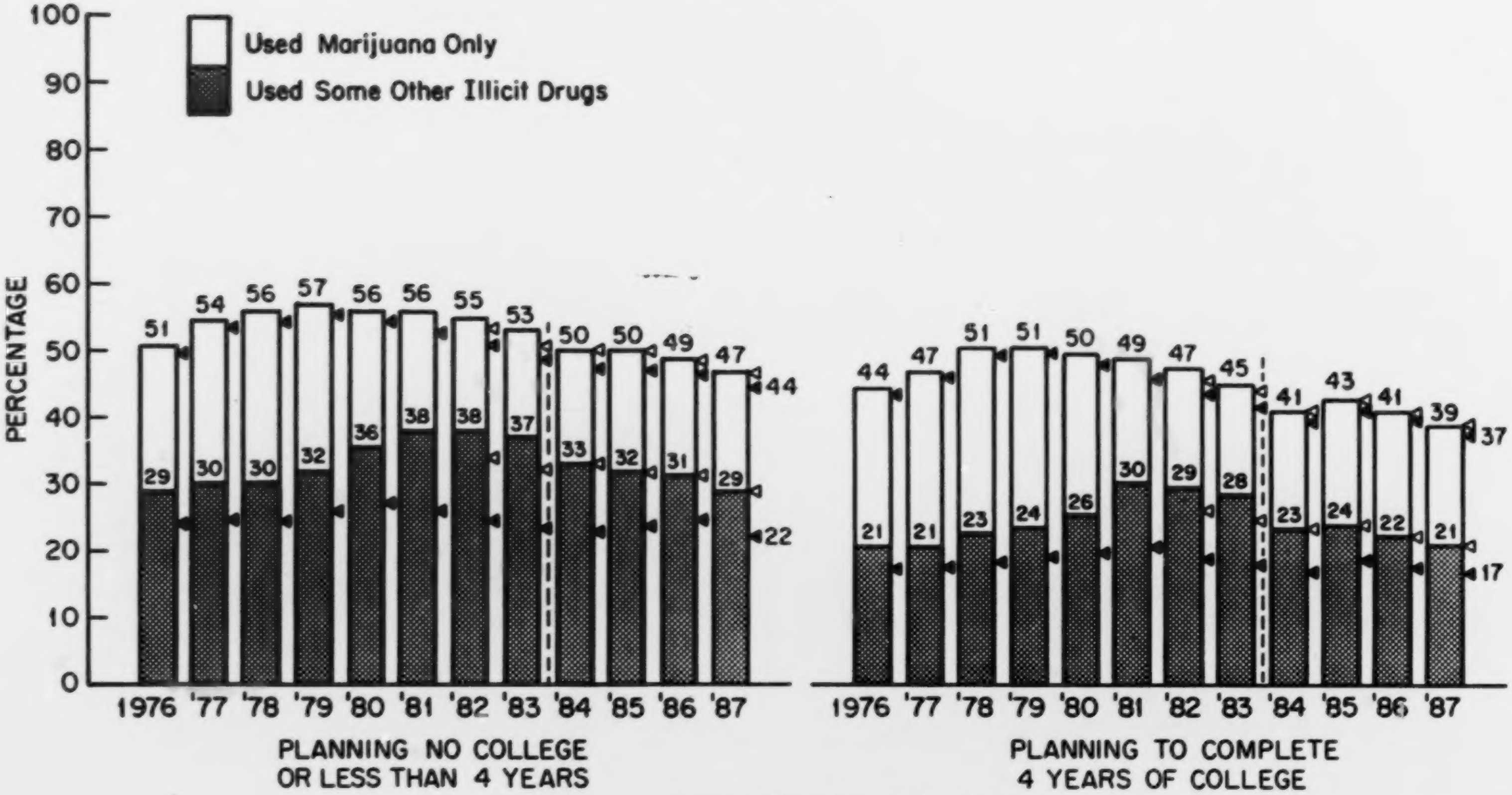
[16] Because of excessive missing data in 1975 on the variable measuring college plans, group comparisons are not presented for that year.

FIGURE 13

Trends in Seniors' Annual Prevalence of an Illicit Drug Use Index by College Plans



NOTE: See Figure 8 for relevant footnotes.

level in all four regions, although it did show a decline in 1987 in all regions except the South.

- Over the longer term, ***cocaine*** use has shown very different trends in the four regions of the country leading to the emergence of the largest regional differences observed for any of the drugs (see Figure 15 for differences in lifetime prevalence trends). In the mid-seventies, there was relatively little regional variation in cocaine use. As the nation's cocaine epidemic grew in the late seventies, large regional differences emerged, so that by 1981 annual use had roughly tripled in the West and Northeast, nearly doubled in the North Central, and increased "only" by about 30% in the South. Since 1981, this pattern of large regional differences—with the annual prevalence being roughly twice as high in the West and Northeast as in the South and North Central—has remained. There has been some further increase in the Northeast (occurring primarily in 1984) followed by declines in use in 1986 and 1987. In 1987 statistically significant declines occurred in all regions except the South.

- Between 1975 and 1981, sizeable regional differences in ***hallucinogen*** use emerged, as use in the South dropped appreciably. In 1981, both the North Central and the West had annual rates that were about two and one-half times higher than the South (10.3%, 10.4%, and 4.1%, respectively), and the Northeast was three times as high (12.9%). After 1981, hallucinogen use dropped appreciably in all three nonSouthern regions (by 3–5%), narrowing these differences in absolute terms, though the Northeast, North Central and West now have annual rates about one-and-one-half times as high as that of the South. (Data not shown.)

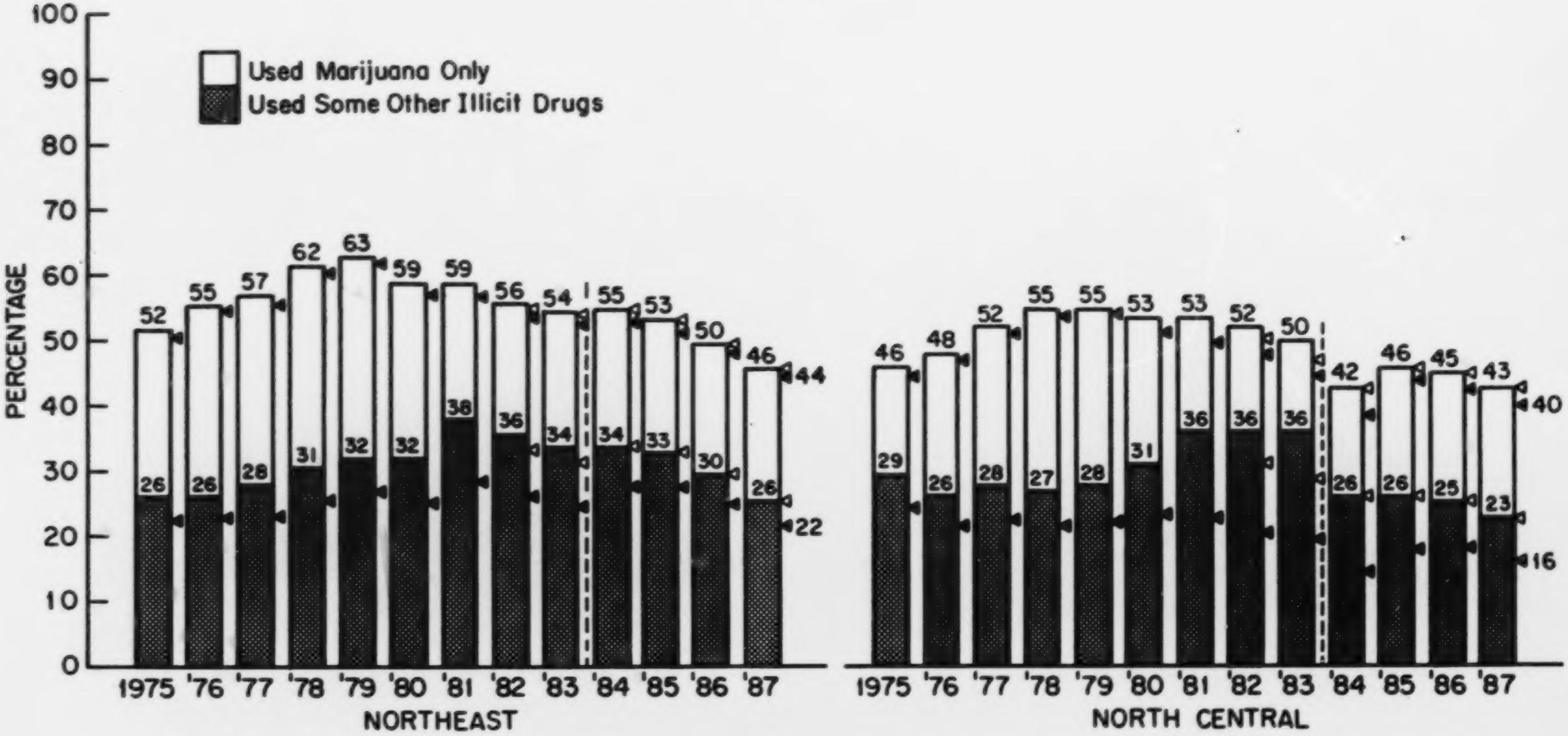
- Between 1980 and 1982, ***PCP*** use dropped precipitously in all regions, though the drop was greatest in the Northeast which in 1980 had a usage rate roughly double that of all the other regions. In general, PCP use has remained low, although there is some evidence of a temporary increase in the Northeast in 1985 and in the West in 1986.

- The use of ***nitrite inhalants*** fell sharply in all regions between 1979 and 1981, and use generally stayed low for several years. Since 1984, there have been some year-to-year fluctuations in all regions, with no stable regional pattern seeming to emerge. The same is true for ***inhalants***, both unadjusted and adjusted.

- Regarding ***alcohol***, the decline in occasions of heavy drinking since 1981 has been greater in the Northeast than any other region, which means it has dropped in rank from highest to second highest on this statistic. Since 1986 the North Central has ranked highest.

FIGURE 14

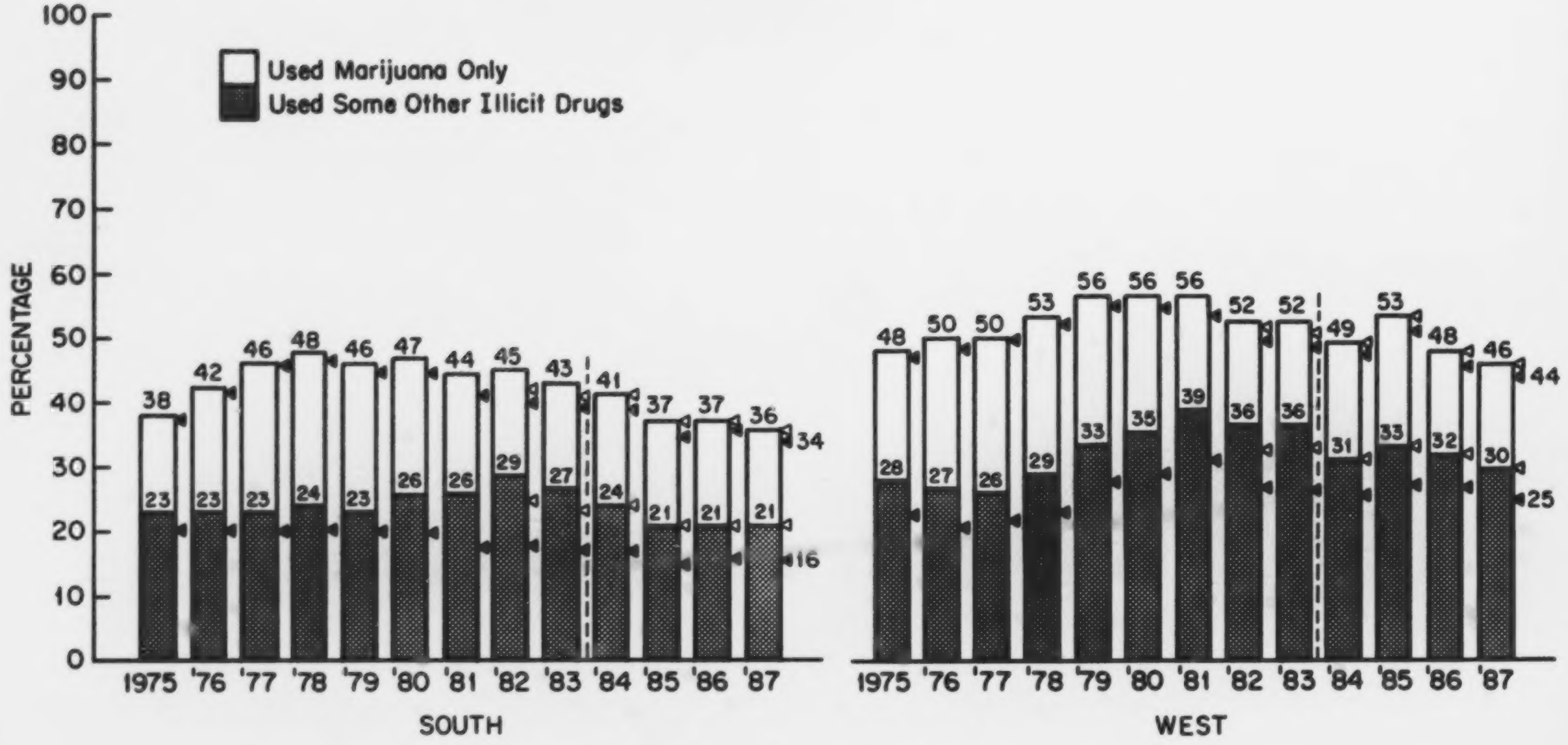
Trends in Seniors' Annual Prevalence of an Illicit Drug Use Index
by Region of the Country



NOTE: See Figure 8 for relevant footnotes.

FIGURE 14 (cont.)

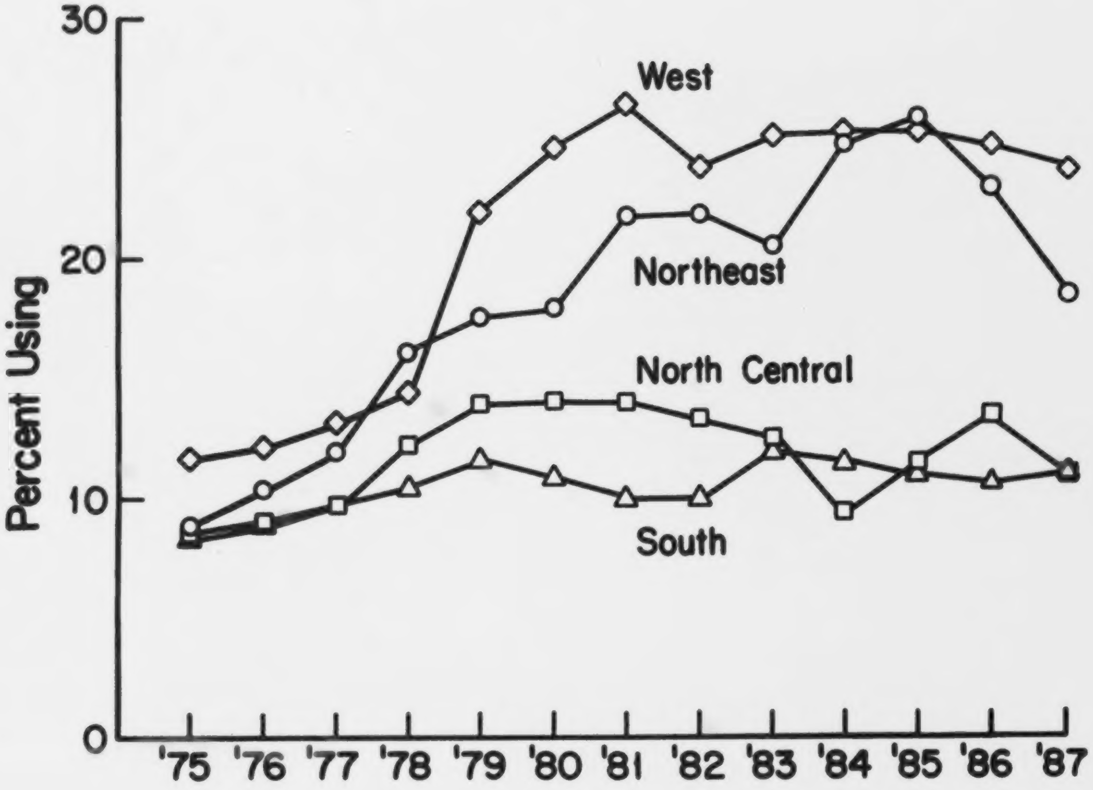
Trends in Seniors' Annual Prevalence of an Illicit Drug Use Index
by Region of the Country



NOTE: See Figure 8 for relevant footnotes.

FIGURE 15

Trends in Seniors' Lifetime Prevalence of Cocaine Use
by Region of the Country



- The remaining drugs (i.e., ***cigarettes***, ***marijuana***, ***heroin***, ***other opiates***, ***barbiturates***, ***methaqualone***, and ***tranquilizers***) have shown rather little regional variation in their trends.

Trend Differences Related to Population Density

- There was a peaking in 1979 in the proportions using ***any illicit drug*** in all three levels of community size (Figure 16). Although the smaller metropolitan areas and the nonmetropolitan areas never caught up completely with their larger counterparts, they did narrow the gap some between 1975 and 1979. Most of that narrowing was due to changing levels of marijuana use, and most of it occurred prior to 1978.

  Since 1979, there had been a fairly steady decrease in all three groupings on community size—until 1985, when the metropolitan areas remained level and the nonmetropolitan areas showed a slight rise. In 1986 all three showed the resumption of a gradual decline.

- The overall proportion involved in ***illicit drugs other than marijuana*** also has peaked in communities of all sizes, but not until 1981 or 1982. Up to 1981, the proportions reporting the use of some illicit drug other than marijuana in the last 12 months had been increasing continuously (over a four-year period in the very large cities, and over a three-year period in the smaller metropolitan and nonmetropolitan areas). As can be seen by the special notations in Figure 16, almost all of this increase is attributable to the rise in reported amphetamine use (which likely is artifactual in part). Since 1983 there has been a fair-sized decline in all three groups in the use of illicit drugs other than marijuana—again largely attributable to changes in amphetamine use.

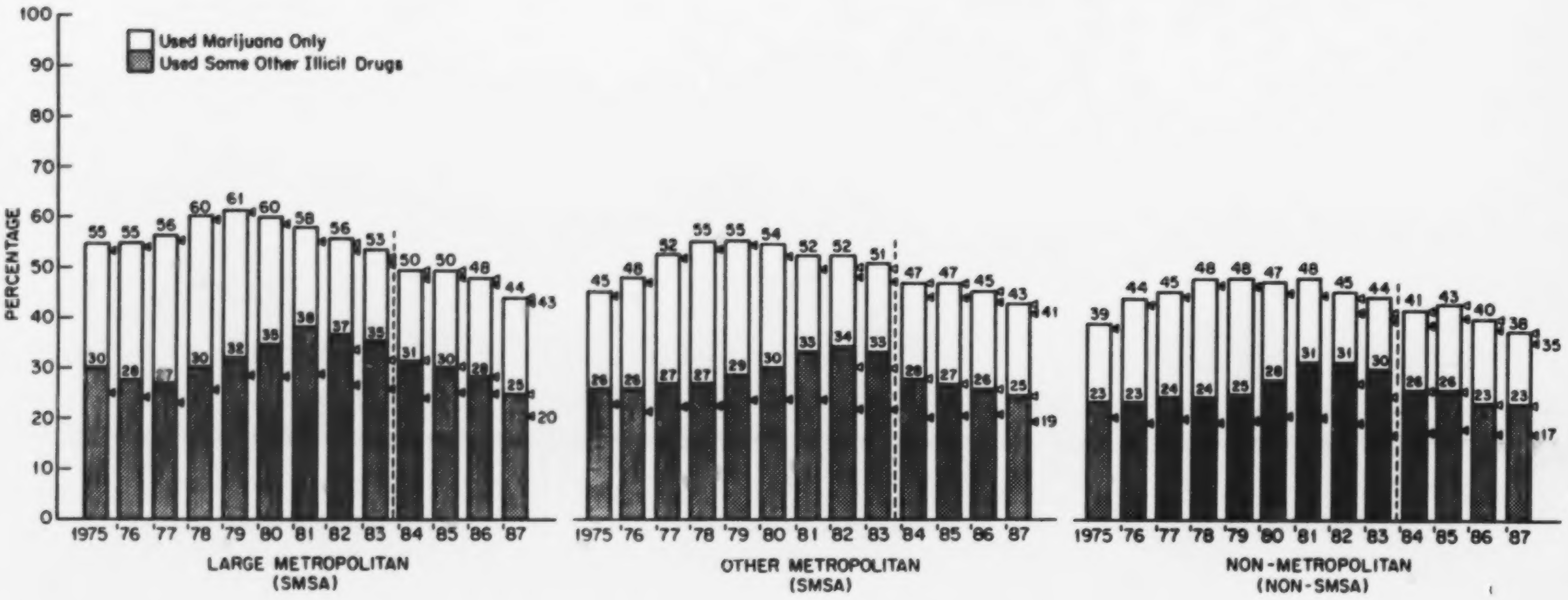
- For a number of the individual classes of drugs, there has emerged a narrowing of previous differences as they have been in a decline phase, much as there was an emergence of those differences during their incline phases. Figure 17 shows the trends for annual prevalence of alcohol, marijuana, and cocaine.

- The increase in ***cocaine*** use between 1976 and 1979, although dramatic at all levels of urbanicity, was clearly greatest in the large cities. Between 1980 and 1984, use was fairly stable in all groupings, and in 1985 they all showed a rise in annual prevalence, in 1986 they all stabilized again, and in 1987 they all dropped. However, just as the earlier rise had been greatest in the large cities, so was the drop in 1987 (see Figure 17).

- There is evidence of a decline in current ***alcohol*** use in the large cities in recent years. For example, 30-day prevalence in the large cities is down by 12%, from 78% in 1980 to 66% in 1987; during the

FIGURE 16

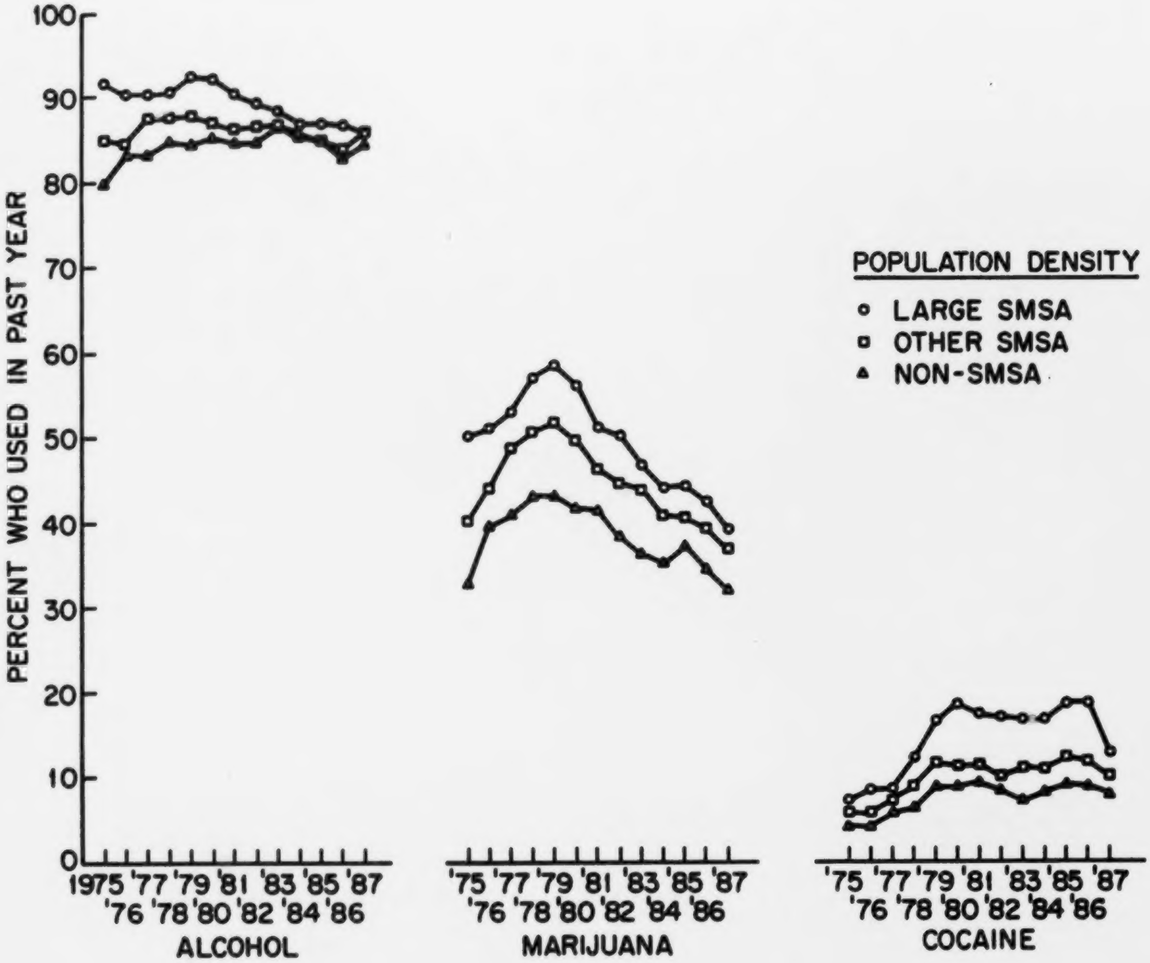
Trends in Seniors' Annual Prevalence of an Illicit Drug Use Index
by Population Density



NOTE: See Figure 8 for relevant footnotes.

FIGURE 17

Trends in Seniors' Annual Prevalence of Alcohol, Marijuana and Cocaine Use by Population Density



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same interval, the smaller metropolitan areas decreased 4% (from 71% to 67%), and the nonmetropolitan areas dropped 3% (from 69% to 66%). Similarly, ***daily use*** decreased between 1980 and 1987 by 3.4% in the large cities (7.1% to 3.7%), and by 1.3% (6.1% to 4.8%) in nonmetropolitan areas, while the smaller cities did not change. And ***occasional heavy drinking*** decreased by 10.0% (from 44.8% to 34.8%) in the large cities, compared to a 0.3% decrease in other cities (38.9% to 38.6%) and a 3.1% drop in nonmetropolitan areas (41.4% to 38.3%). These differential shifts result in less variation among the three levels of urbanicity in 1987 than there had been during the seventies. In fact differences in annual prevalence have virtually been eliminated (see Figure 17).

- Differences related to community size have also narrowed in the cases of ***LSD*** (since 1981) due to a greater amount of decrease in the large cities and other cities than in the nonmetropolitan areas (which started out considerably lower). A similar thing has happened for ***PCP***, as well.

- ***Marijuana*** use has also shown some evidence of convergence among the three urbanicity groups in recent years (Figure 17). Use has consistently been positively correlated with community size, with the differences being greatest in the peak year of usage, 1978. Since then both the absolute and proportional differences have been diminishing as the more urban areas have exhibited a greater decline.

- In the last half of the seventies, the use of ***opiates other than heroin*** was consistently highest in the large metropolitan areas and lowest in the nonmetropolitan areas. However, in recent years, there has been no consistent difference among these groups.

- The remaining drugs show little variation in trends related to population density.

Chapter 6

USE AT EARLIER GRADE LEVELS

In two of the five questionnaire forms used in the study, respondents are asked to indicate the grade in which they were enrolled when they first tried each class of drugs. Table 15 gives the percentage of the 1987 seniors who first tried each drug at each of the earlier grade levels.

INCIDENCE OF USE BY GRADE LEVEL

- For ***cigarettes*** and ***alcohol***, most of the initial experience takes place before high school. For example, regular daily cigarette smoking was begun by 12% prior to tenth grade vs. 9% in high school (i.e., in grades 10 through 12). The figures for initial use of alcohol are 56% prior to and 36% during high school. Also for the use of ***inhalants*** (unadjusted) more than half (9.4%) was initiated before tenth grade (vs. 7.5% after).

  For most of the illicit drugs, between 40% and 55% of the eventual users (i.e., those who had used by the end of twelfth grade) initiated use prior to tenth grade; ***methaqualone***, ***barbiturates***, ***PCP***, ***heroin***, ***amphetamines***, and ***tranquilizers*** fall in this category. A substantial minority—between one-quarter and one-third—initiate use prior to tenth grade among eventual users of ***LSD***, ***nitrites***, and ***opiates other than heroin***.

- For ***marijuana***, about half of the users initiate before high school; 25% prior to and 25% during high school (see Table 15).

- ***Cocaine*** presents a contrasting picture to nearly all other drugs in that initiation rates do not become very appreciable until high school; less than 20% of eventual users in the class of 1987 initiated use prior to tenth grade. Furthermore, as later chapters will show, follow-ups of earlier graduating classes indicate that initiation rates remain very high in the years after high school.

TRENDS IN USE AT EARLIER GRADE LEVELS

- Using the retrospective data provided by members of each senior class concerning their grade at first use, it is possible to reconstruct lifetime prevalence curves at lower grade levels during the years when each class was at those various grade levels. Obviously, data from dropouts from school are not included in any of the curves.

TABLE 15

Grade of First Use for Sixteen Types of Drugs, Class of 1987

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine	Heroin	Other Opiates	Stimulants[b] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Getting Drunk	Cigarettes	Cigarettes (daily)
6th	2.9	2.5	0.3	0.3	0.1	0.3	0.2	0.1	0.6	0.6	0.4	0.4	0.1	0.4	8.8	3.3	21.0	1.6
7–8th	10.0	3.3	0.5	0.9	0.7	0.3	0.6	0.1	1.0	3.8	1.5	1.1	0.9	1.6	22.6	13.8	19.4	5.2
9th	12.3	3.6	0.9	1.9	1.5	0.6	2.2	0.3	2.0	5.7	2.5	2.5	1.0	2.6	24.5	20.3	10.9	5.3
10th	12.3	2.7	1.4	2.5	2.0	1.0	3.7	0.4	2.0	5.4	1.9	1.5	0.9	2.6	19.3	17.8	7.2	4.4
11th	8.2	3.4	0.9	3.3	2.6	0.6	5.4	0.2	2.5	3.8	1.5	1.3	0.7	2.4	11.5	11.9	5.7	3.3
12th	4.4	1.4	0.7	1.5	1.5	0.3	3.0	0.1	1.0	2.4	0.8	0.6	0.3	1.4	5.5	5.7	2.9	1.6
Never used	49.8	83.0	95.3	89.7	91.6	97.0	84.8	98.8	90.8	78.4	91.3	92.6	96.0	89.1	7.8	27.1	32.8	78.7

NOTE: This question was asked in two of the five forms (N = approximately 6000), except for inhalants, PCP, and the nitrites which were asked about in only one form (N = approximately 3000).

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

Figures 18a through 18s show the reconstructed lifetime prevalence curves for earlier grade levels for a number of drugs.

- Figure 18a provides the trends at each grade level for lifetime use of ***any illicit drug***. It shows that for all grade levels there was a continuous increase in illicit drug involvement through the seventies. The increase is fortunately quite small for use prior to seventh grade; only 1.1% of the class of 1975 reported having used an illicit drug in 6th grade or below (which was in 1969 for that class), but the figure has increased modestly, and for the class of 1987 is at 3.6% (which was in 1981 for that class). The lines for the other grade levels all show much steeper upward slopes. For example, about 42% of the class of 1987 had used some illicit drug by the end of grade 10, compared to 37% of the class of 1975.

- Beginning in 1980, though, there was a leveling off at the high school level (grades 10, 11, and 12) in the proportion becoming involved in illicit drugs. The leveling in the lower grades came about a year earlier.

- Most of the increase in any illicit drug use was due to increasing proportions using marijuana. We know this from the results in Figure 18b showing trends for each grade level in the proportion having used ***any illicit drug other than marijuana*** in their lifetime. Compared to Figure 18d for marijuana use, these trend lines are relatively flat throughout the seventies and, if anything, began to taper off among ninth and tenth graders between 1975 and 1977. The biggest cause of the increases in these curves from 1978 to 1981 was the rise in reports of amphetamine use. As noted earlier, we suspect that at least some of this rise is artifactual. If amphetamine use is removed from the calculations, even greater stability is shown in the proportion using ***illicits other than marijuana or amphetamines***. (See Figure 18c.)

- As can be seen in Figure 18d, for the years covered across the decade of the 70's, ***marijuana*** use had been rising steadily at all grade levels down through the seventh-eighth grades. Beginning in 1980, marijuana involvement began to decline for grades 9 through 12. Grades 7 and 8 began to decline a year later, in 1981.

  There was also some small increase in marijuana use during the 1970's at the elementary level (that is, prior to seventh grade). Use by sixth grade or lower rose gradually from 0.6% for the class of 1975 (who were sixth graders in 1968–69) to a peak of 4.3% in the class of 1984 (who were sixth graders in 1977–78). (It began dropping thereafter.) Results from the three most recent national household surveys currently available from NIDA suggest that this relatively low level of use among this age group continues to hold true: the proportion of 12 to 13 year olds reporting any experience with marijuana was 6% in 1971, and was constant at 8% in 1977, 1979, and 1982. Presumably sixth graders would have even lower absolute rates, since the average age of sixth graders is less than twelve.[17]

- ***Cocaine*** use at earlier grade levels is given in Figure 18e. One clear contrast to the marijuana pattern is that most initiation into cocaine use takes place in the last two or three years of high school (rather than earlier, as is the case for marijuana). Further, most of the increase in cocaine experience between 1976 and 1980 occurred in the 11th and 12th grades, not below. After 1980, experience with cocaine generally remained fairly level until 1987 when seniors (the only grade for which there currently are figures for that year) showed a significant decline. We expect this decline to show up for the lower grades as the data for them become available, since we believe the 1987 change reflects a secular shift.

- The lifetime prevalence statistics for ***stimulants*** peaked briefly for grade levels 9 through 12 during the mid-70's. (See Figure 18f.) However, it showed a sharp rise in the late 70's at virtually all grade levels. As has been stated repeatedly, we believe that some—perhaps most—of this recent upturn is artifactual in the sense that nonprescription stimulants account for much of it. However, regardless of what accounts for it, there was a clear upward secular trend—that is, one observed across all cohorts and grade levels—beginning in 1979. The unadjusted data from the class of 1983 give the first indication of a reversal of this trend. The adjusted data from the classes of 1982 through 1986 suggest that the use of stimulants leveled around 1982 and has fallen appreciably since.

- Lifetime prevalence of ***hallucinogen*** use (unadjusted for underreporting of PCP) began declining among students at most grade levels in the mid-1970's (Figure 18g), and this gradual decline continued in the upper grades. However, it appears that a leveling occurred after 1979 in the lower grades, due almost entirely to the trends in LSD use. (The trend curves for ***LSD*** (Figure 18h) are extremely similar in shape, though lower in level, of course.) This year's data from the class of 1987 suggest that hallucinogen use began declining in the lower grade levels in the early 1980's. The class of 1987, however, shows some evidence of a possible turnaround in the situation due to an increase in LSD use.

- While there is less trend data for ***PCP***, since questions about grade of first use of PCP were not included until 1979, some interesting results emerge. A sharp downturn began around 1979 (see Figure 18i), and use has declined in all grade levels since, though proportionately more in the upper grades. If the hallucinogen figure (18g) were adjusted for underreporting of PCP use, it would be showing even more downturn in recent years.

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[17] See Miller, J.D., Cisin, I.H., Gardner-Keaton, H., Harrell, A.V., Wirtz, P.W., Abelson, H.I., Fishburne, P.M. (1983). *National survey on drug abuse: Main findings 1982.* Rockville, MD: National Institute on Drug Abuse.

- Questions about age at first use for ***inhalants*** (unadjusted for the nitrites) have been asked only since 1978. The retrospective trend curves (Figure 18j) suggest that during the mid-1970's, experience with inhalants decreased slightly for most grade levels and then began to rise again. For the upper grade levels there has been a continued gradual rise since 1980 in lifetime prevalence, whereas the curves have been more uneven in the lower grades.

- Since grade-at-first-use data have been gathered for the ***nitrites*** beginning in 1979, only limited retrospective data exist (Figure 18k). These do not show the recent increase observed for the overall inhalant category. Instead they show a gradual continuing decline, some leveling, and then further decline.

- Figure 18l shows that the lifetime prevalence of ***sedative*** use, like stimulant use, began declining for all grade levels in the mid-70's, then showed some reversal in the late 70's. (Recall that annual prevalence observed for seniors had been declining steadily from 1975 to 1979.) As the graphs for the two subclasses of sedatives—barbiturates and methaqualone—show, the trend lines have been quite different for them at earlier grade levels as well as in twelfth grade (see Figures 18m and 18n). Since about 1974 or 1975, lifetime prevalence of ***barbiturate*** use had fallen off sharply for the upper grade levels for all classes until the late 70's; the lower grades showed some increase in the late 70's (perhaps reflecting the advent of some look-alike drugs) and in the mid 80's all grades appear to be showing the resumption of a decline.

  During the mid-70's ***methaqualone*** use started to fall off at about the same time as barbiturate use in nearly all grade levels, but dropped rather little and then flattened. Between 1978 and 1981 there was a fair resurgence in use in nearly all grade levels; but since 1982 there has been a sharp and continuing decline.

- Lifetime prevalence of ***tranquilizer*** use (Figure 18o) also began to decline at all grade levels in the mid-70's. It is noteworthy that, as with sedatives, the overall decline in tranquilizer use has been considerably greater in the upper grade levels than the lower ones. Overall, it would appear that the tranquilizer trend lines have been following a similar course to that of barbiturates. So far, the curves are different only in that tranquilizer use continued a steady decline among eleventh and twelfth graders, while barbiturate use did not.

- Though difficult to see in Figure 18p, the ***heroin*** lifetime prevalence figures for grades 9 through 12 all began declining in the mid-1970's, then leveled, and show no evidence of reversal as yet.

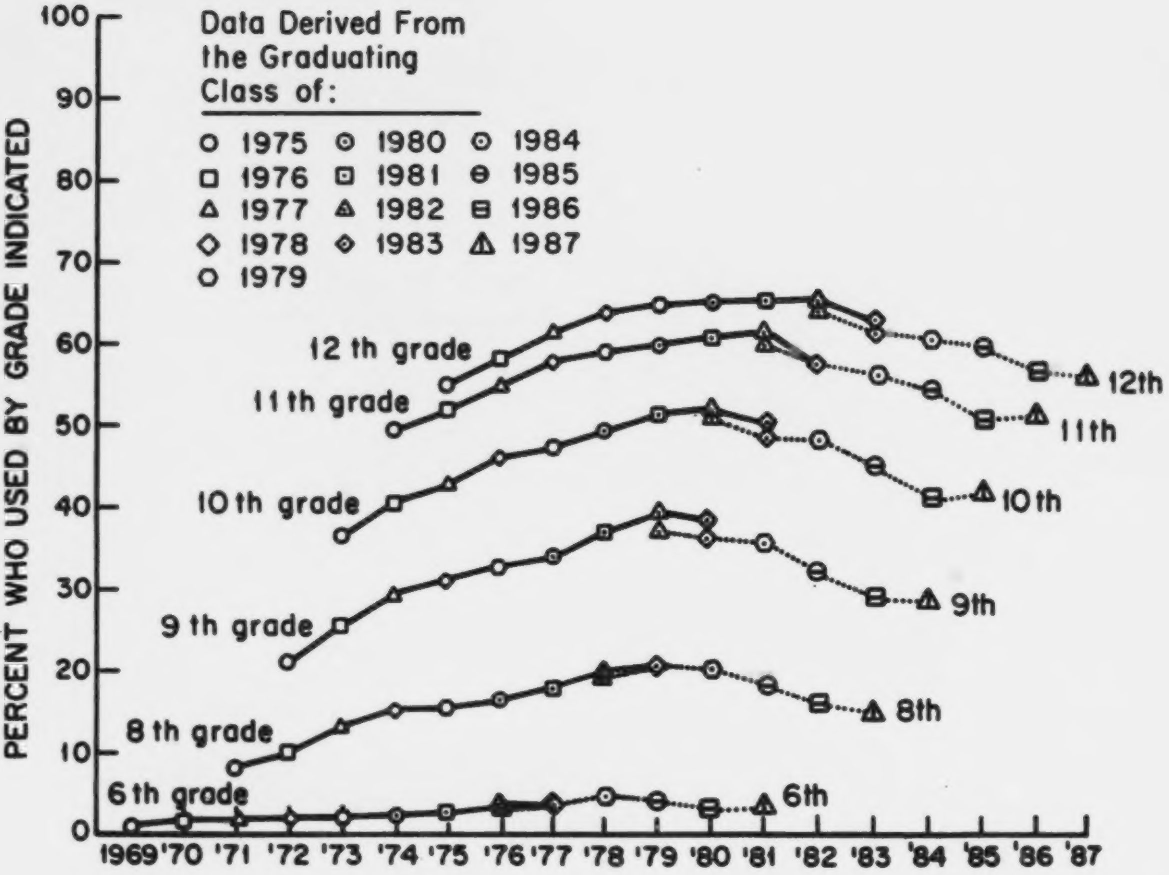
- The lifetime prevalence of use of ***opiates other than heroin*** has remained quite flat at all grade levels since the mid-70's (Figure 18q).

- Figure 18r presents the lifetime prevalence curves for cigarette smoking on a daily basis. It shows that initiation to ***daily smoking*** was beginning to peak at the lower grade levels in the early to mid-1970's. This peaking did not become apparent among high school seniors until a few years later. In essence, these changes reflect in large part cohort effects—changes which show up consistently across the age band for certain class cohorts. Because of the highly addictive nature of nicotine, this is a type of drug-using behavior in which one would expect to observe enduring differences between cohorts if any are observed at a formative age. The classes of 1982 and 1983 showed some leveling of the previous decline, but the classes of 1984 through 1986 showed an encouraging resumption of the decline while they were in earlier grade levels. The data from the class of 1987, however, suggest an end to even this gradual decline in lifetime prevalence.

- The curves for lifetime prevalence of ***alcohol*** at grades 11 and 12 (Figure 18s) are very flat, reflecting little change over more than a decade. In the class of 1987 the upper grades do show some increase, however. At the 7–10th grade levels, the curves show slight upward slopes in the early 1970's, indicating that compared to the older cohorts (prior to the class of 1978), more recent classes initiated use at earlier ages. For example, 50% of the class of 1975 first used alcohol in ninth grade or earlier, compared to between 55 or 56% for all classes since 1978. These changes are relatively small, however. (Females account for most of the change; 42% of females in the class of 1975 first used alcohol prior to tenth grade, compared to 51 to 52% for all classes since 1981.)

FIGURE 18a

Use of Any Illicit Drug: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

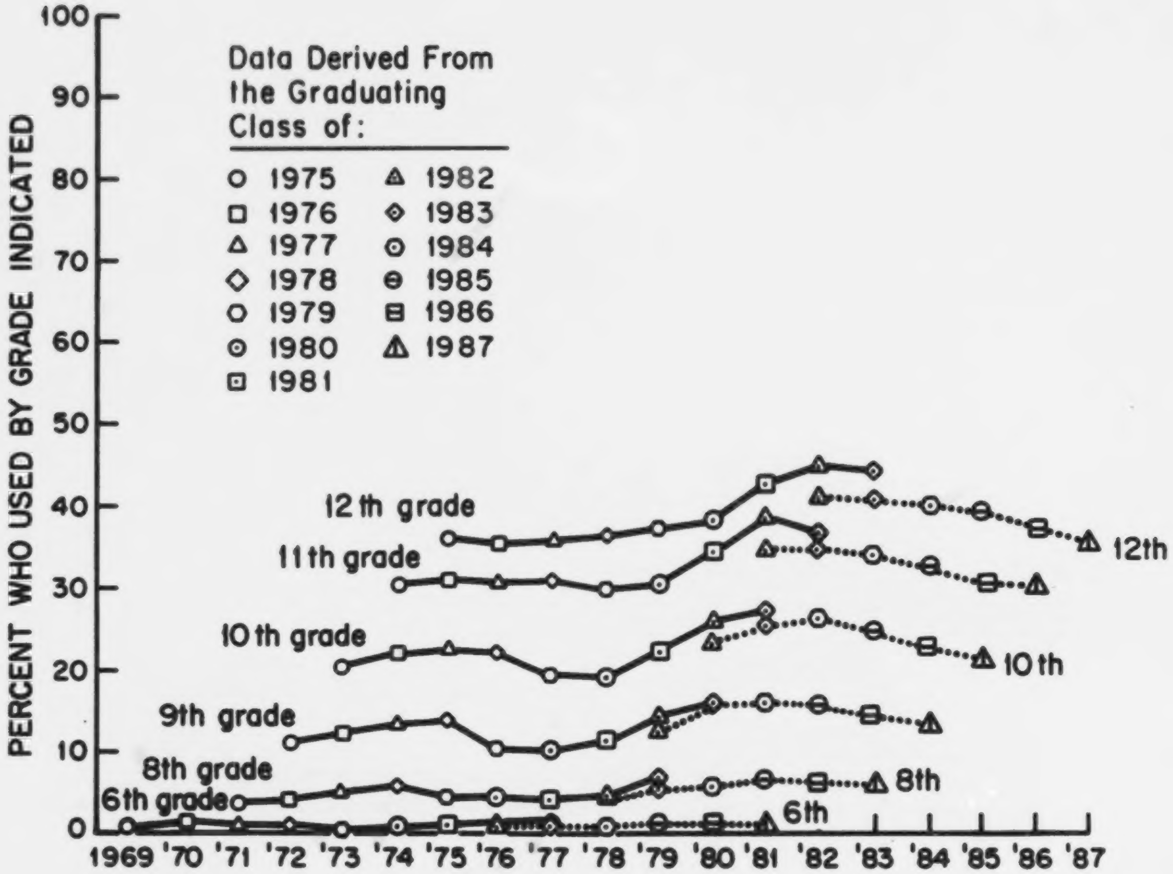


NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18b

Use of Any Illicit Drug Other Than Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Seniors



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18c

Use of Any Illicit Drug Other Than Marijuana or Amphetamines: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Seniors

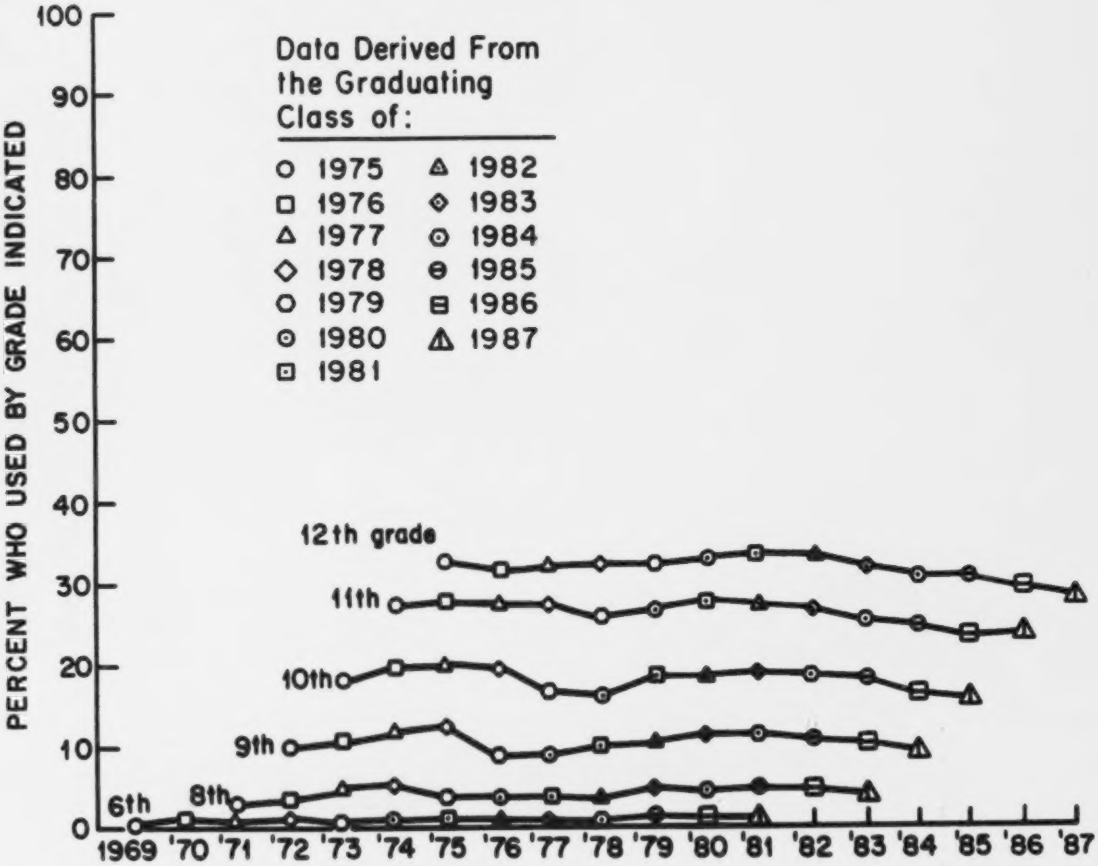


FIGURE 18d

Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

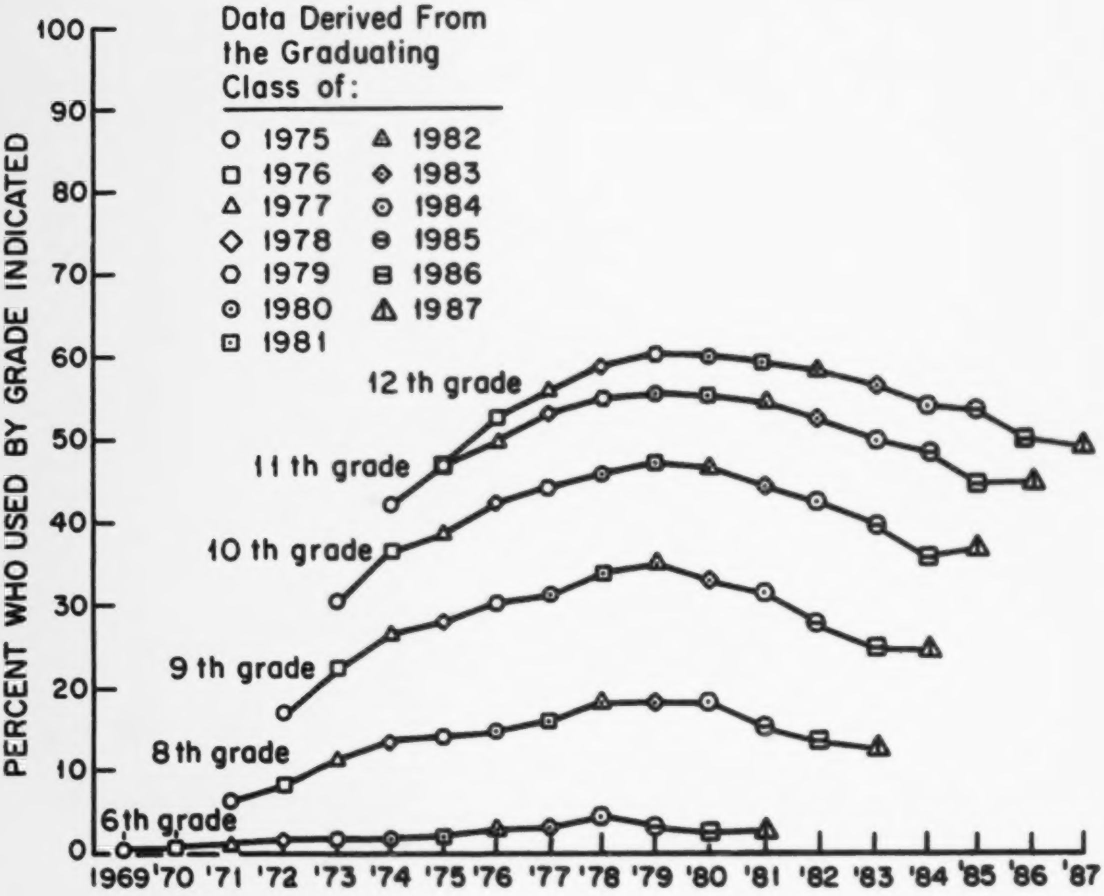


FIGURE 18e

Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

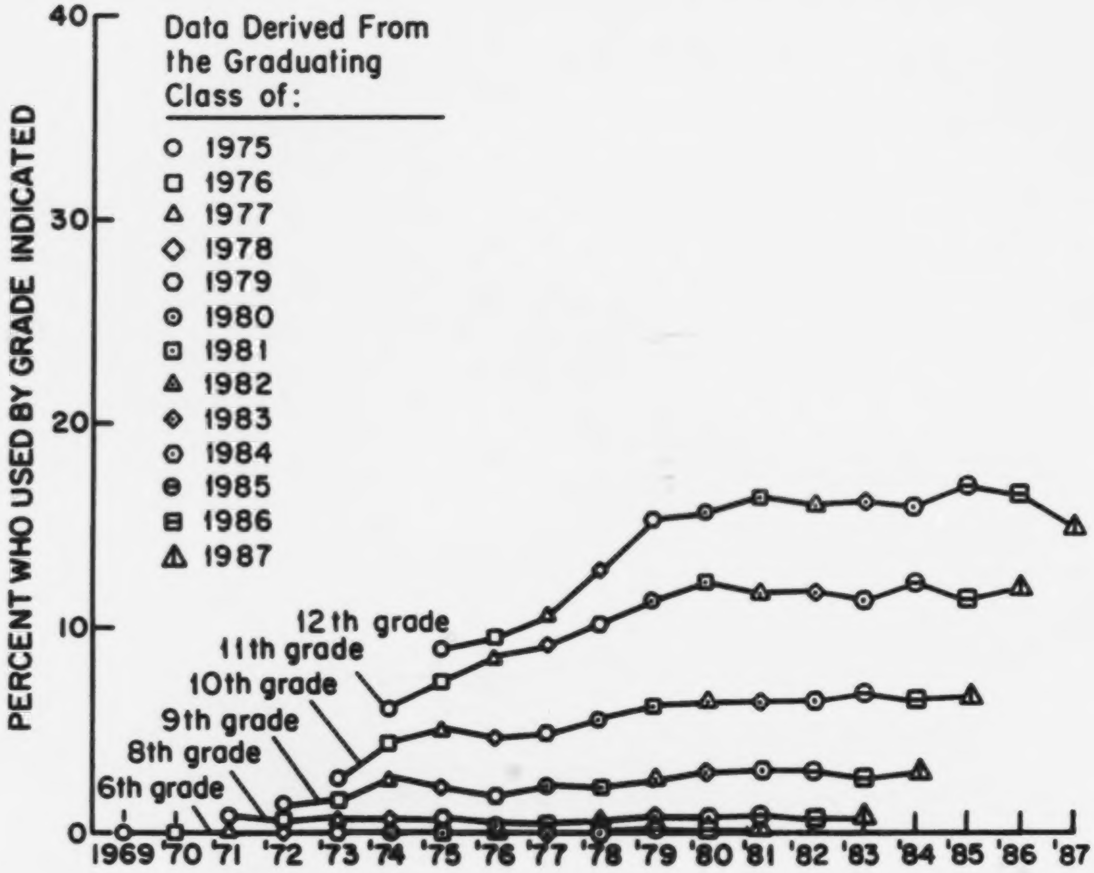
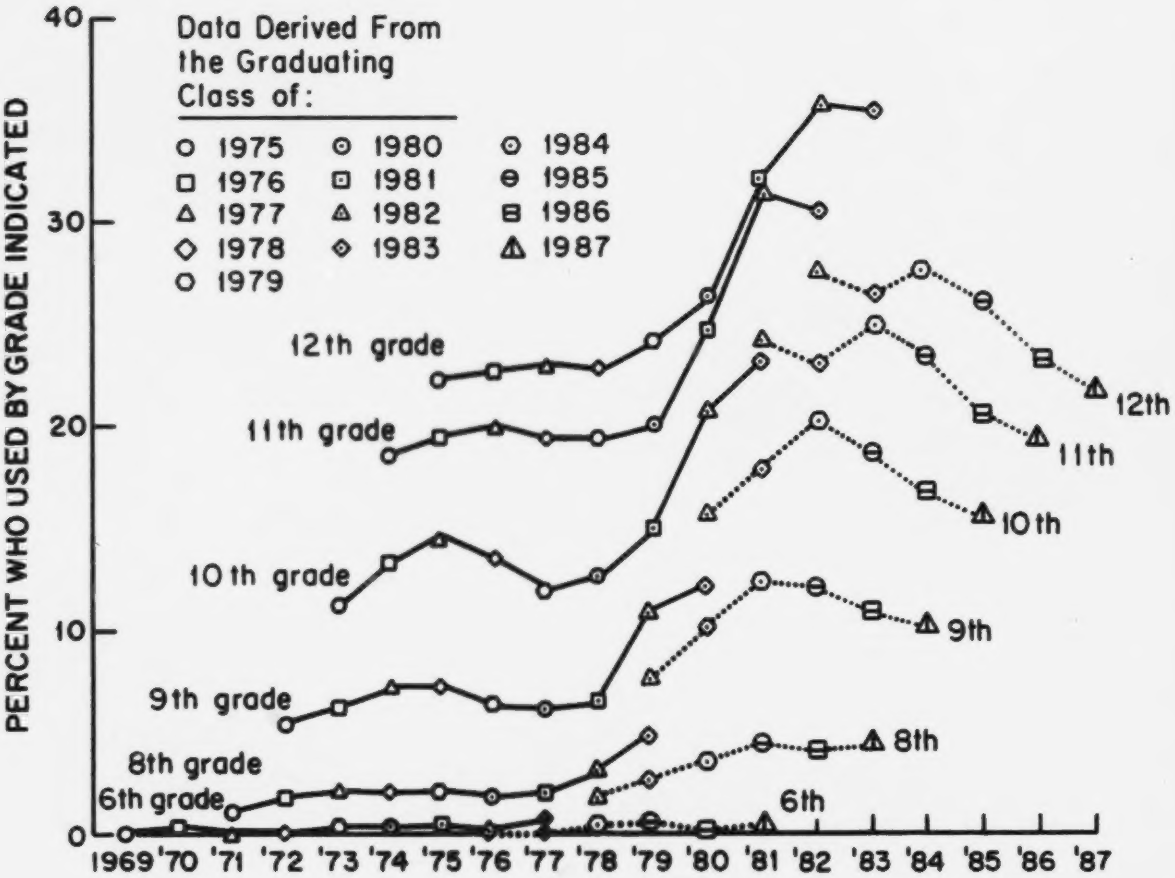


FIGURE 18f

Stimulants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18g

Hallucinogens: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

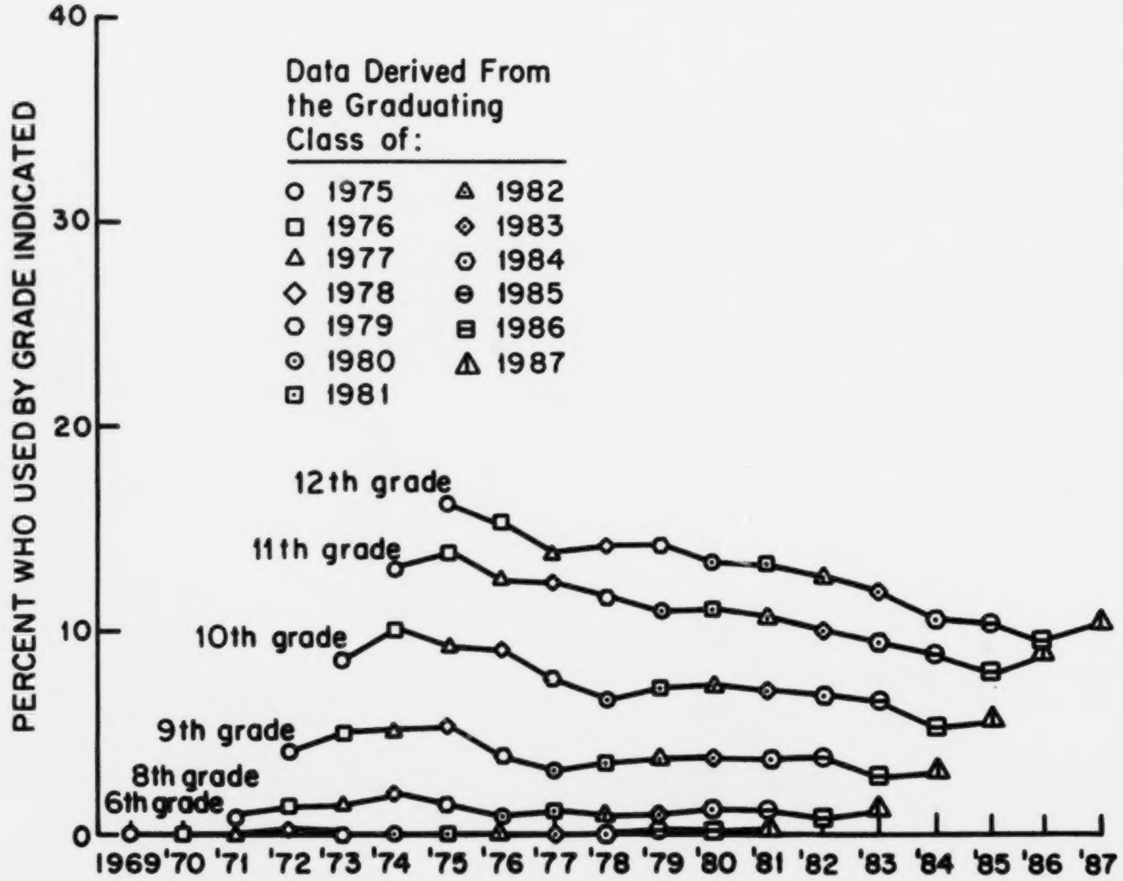


FIGURE 18h

LSD: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

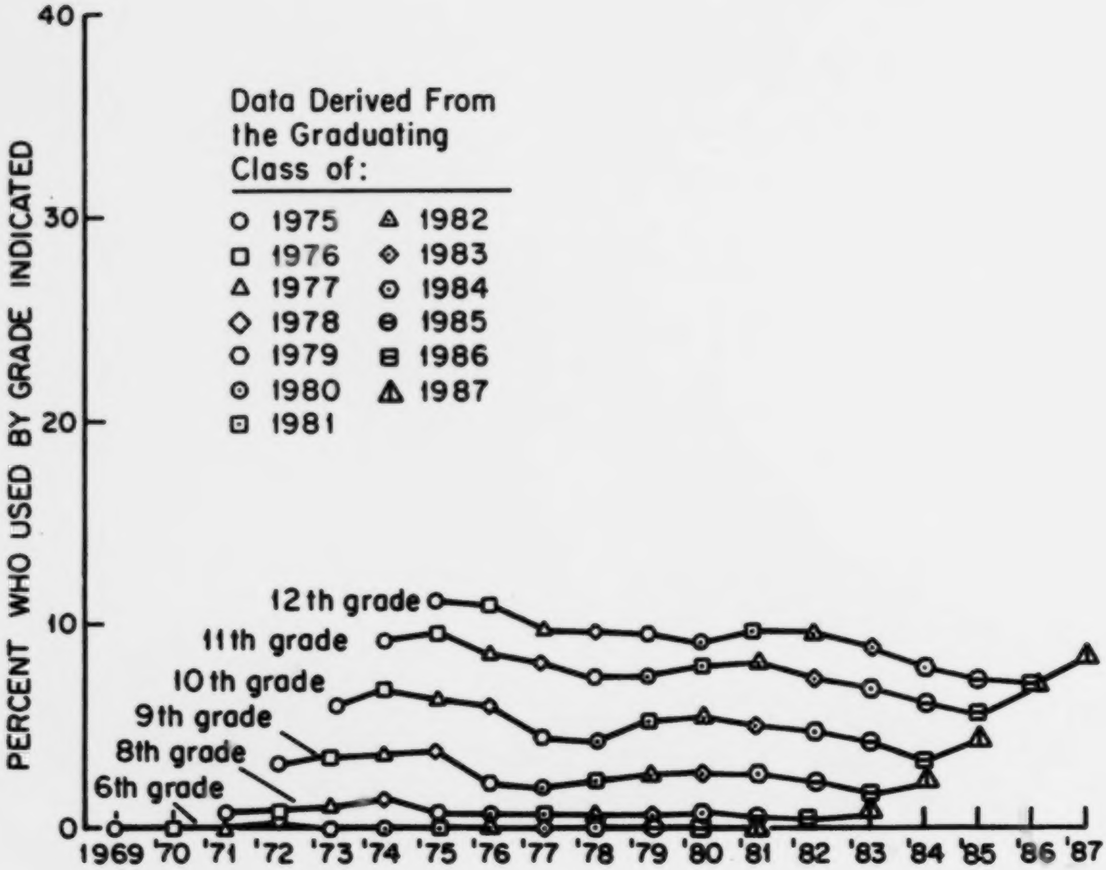


FIGURE 18i

PCP: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

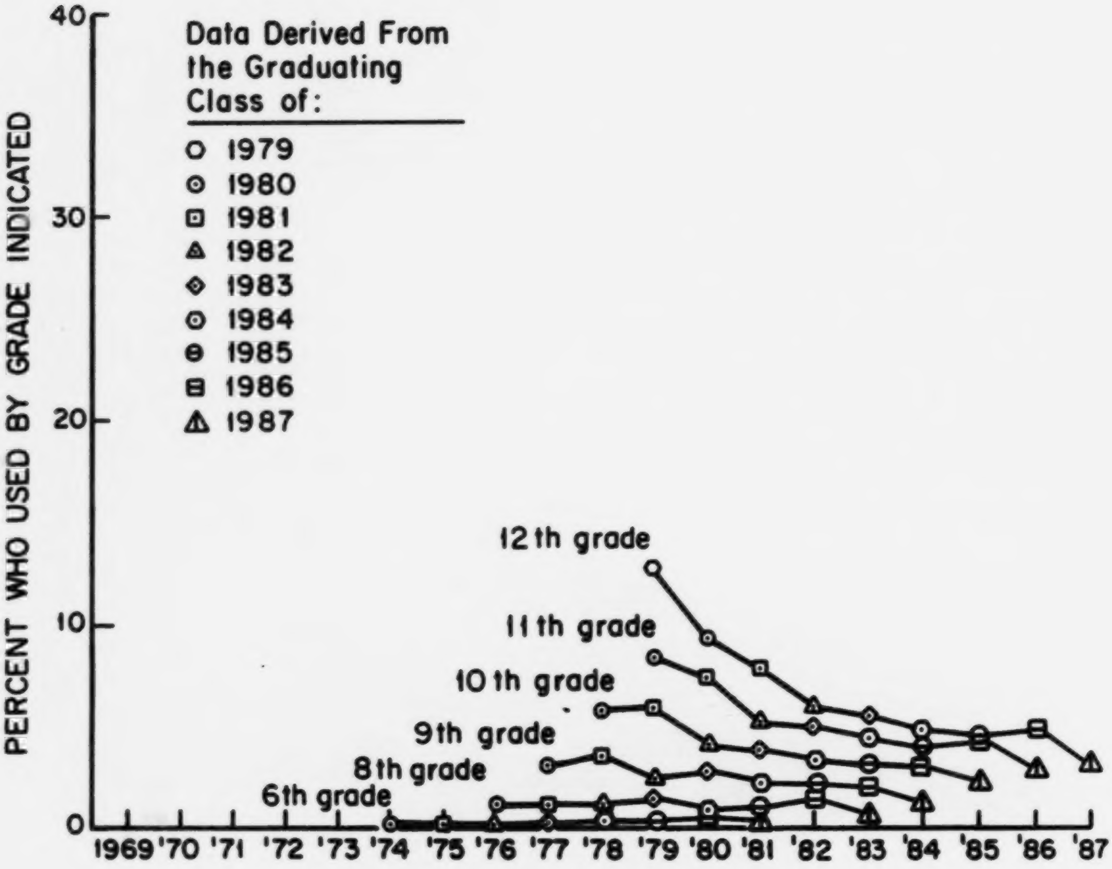


FIGURE 18j

Inhalants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

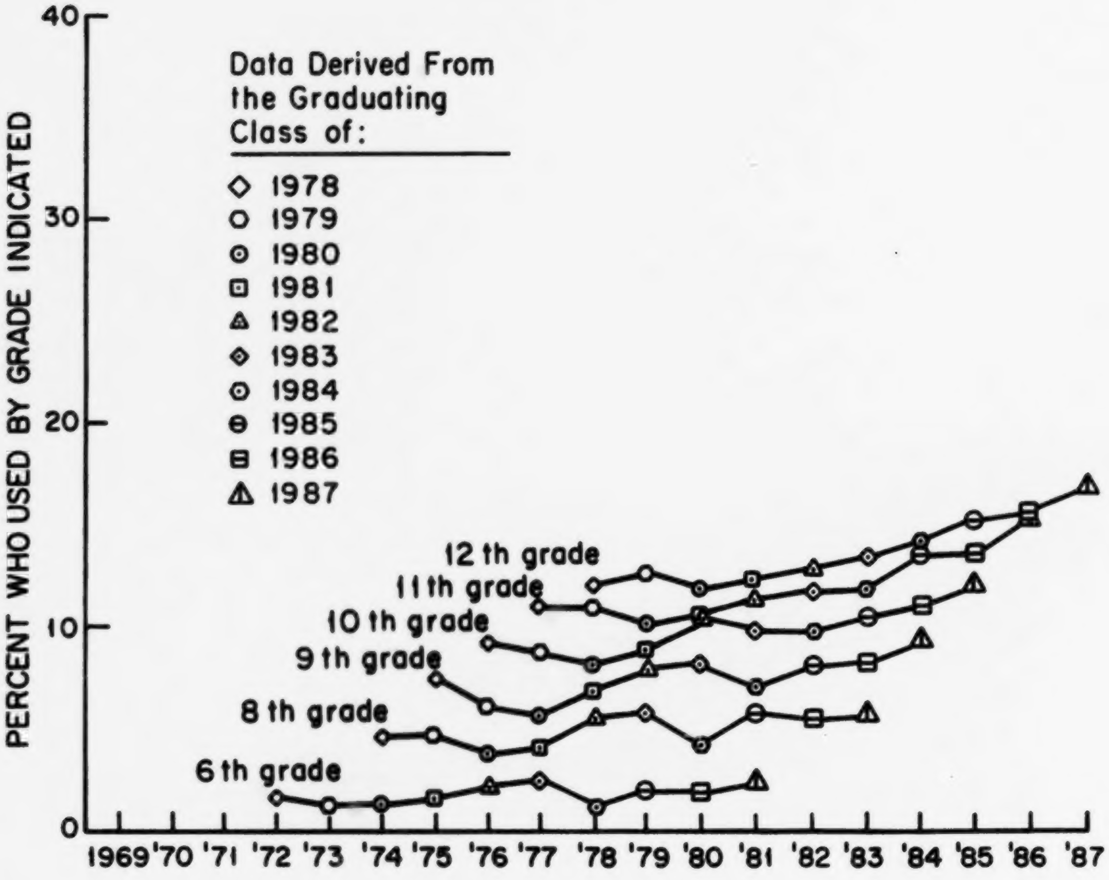


FIGURE 18k

Nitrites: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

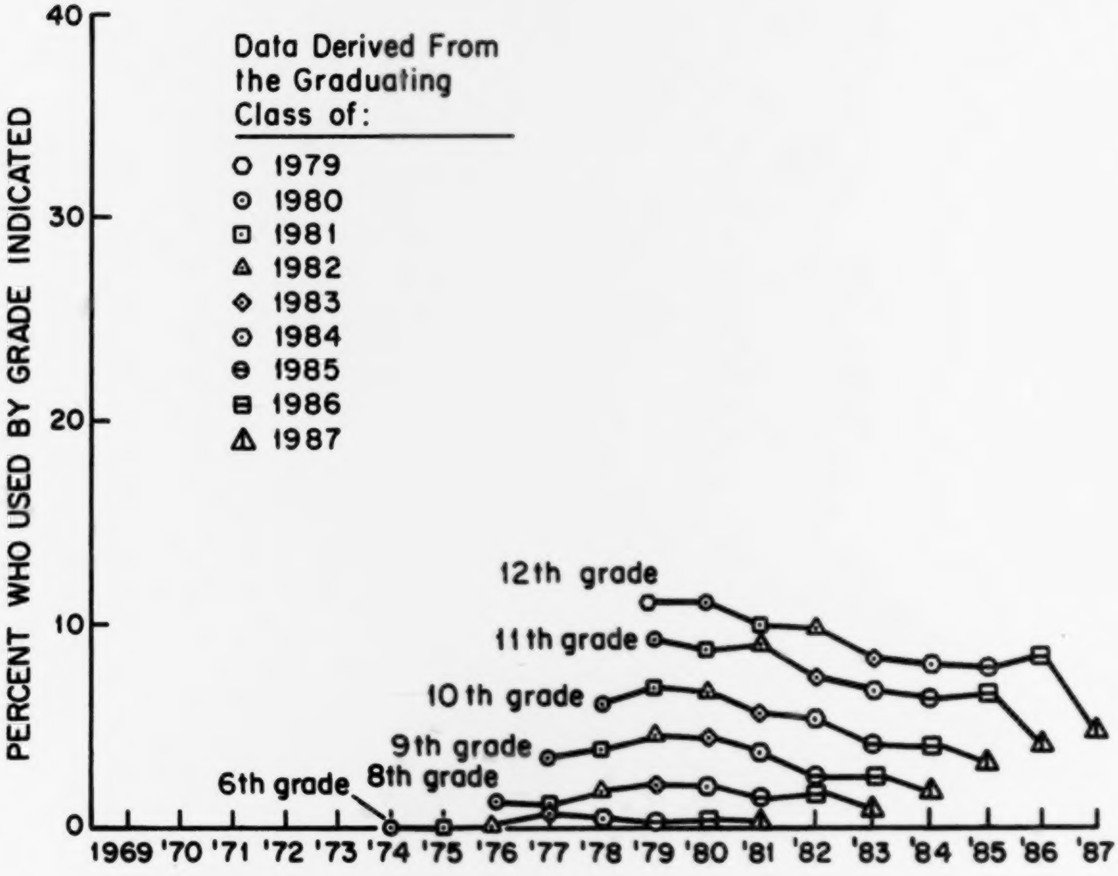


FIGURE 181

Sedatives: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

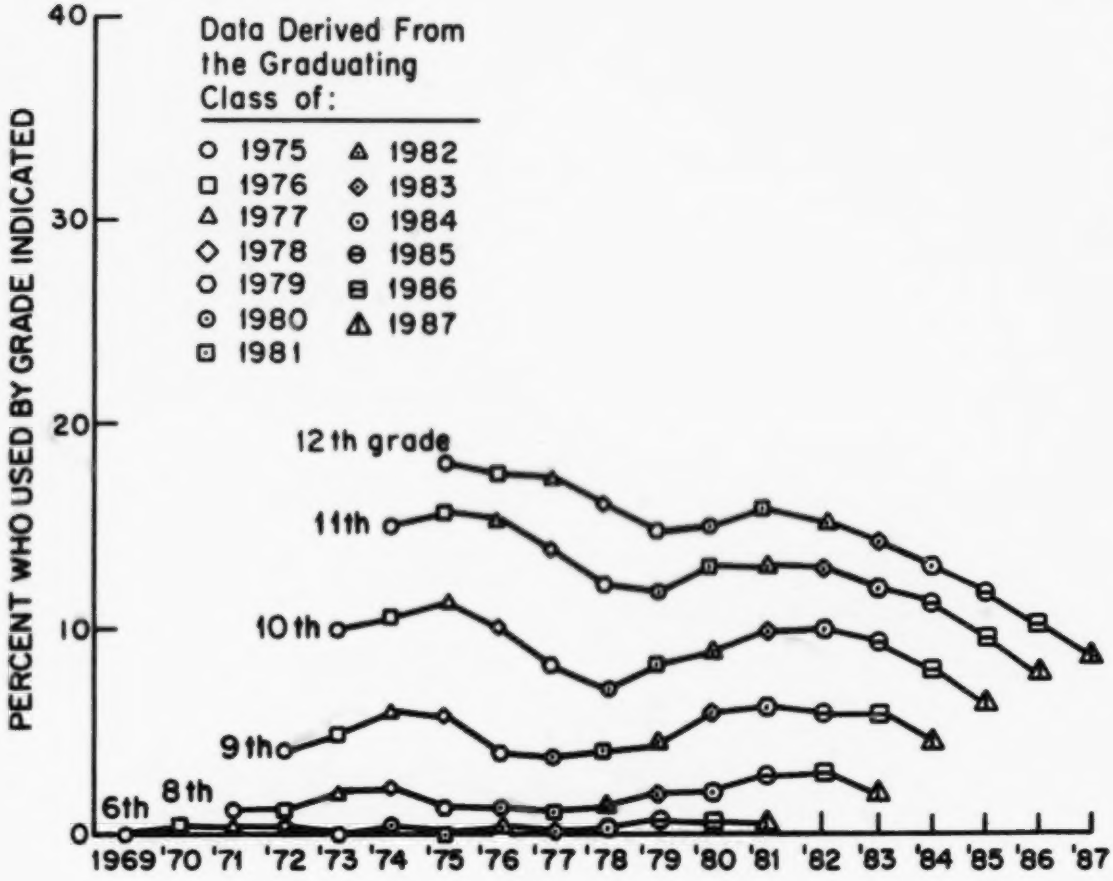


FIGURE 18m

Barbiturates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

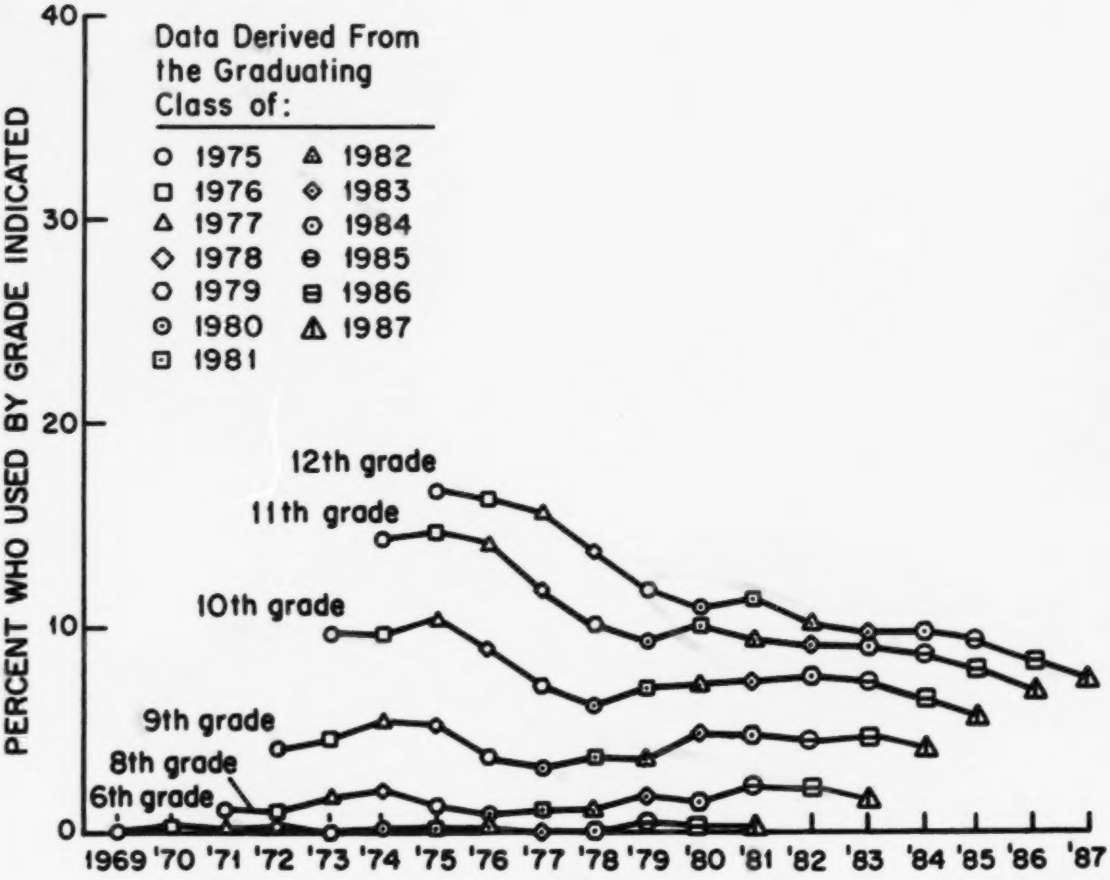


FIGURE 18n

Methaqualone: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

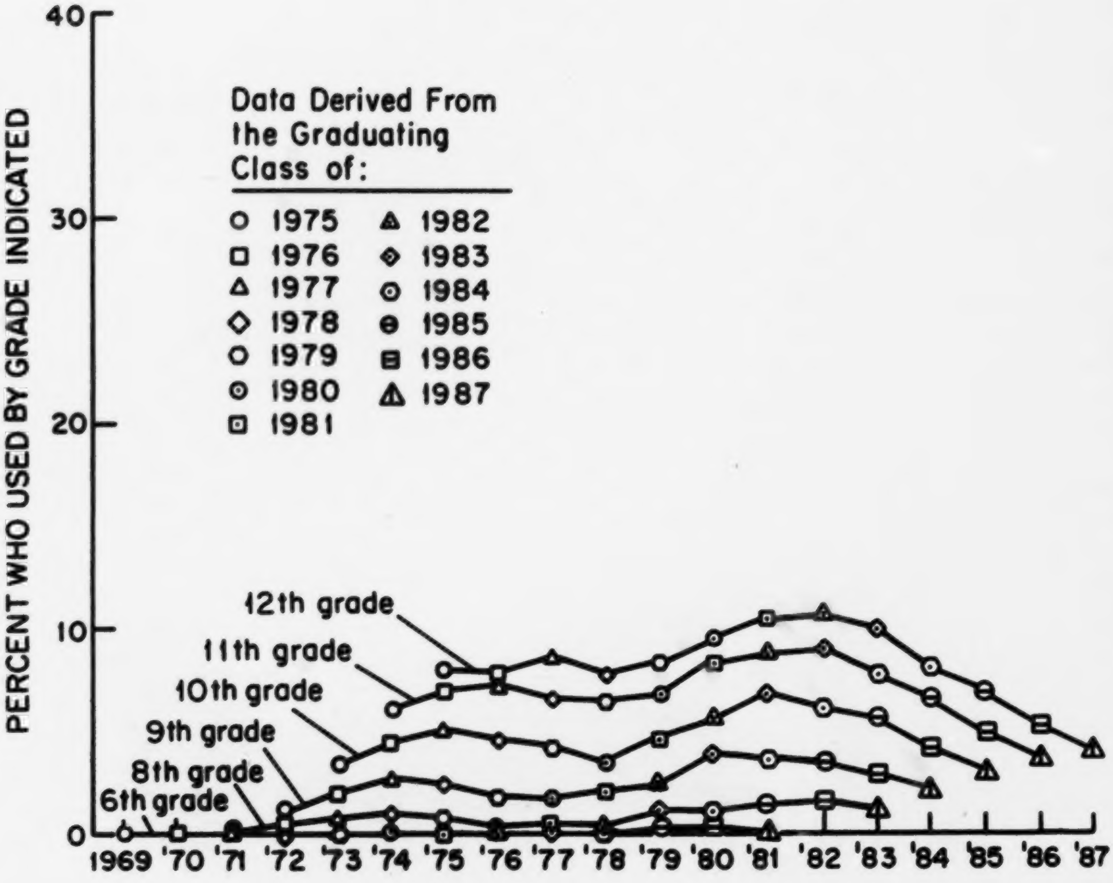


FIGURE 18o

Tranquilizers: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

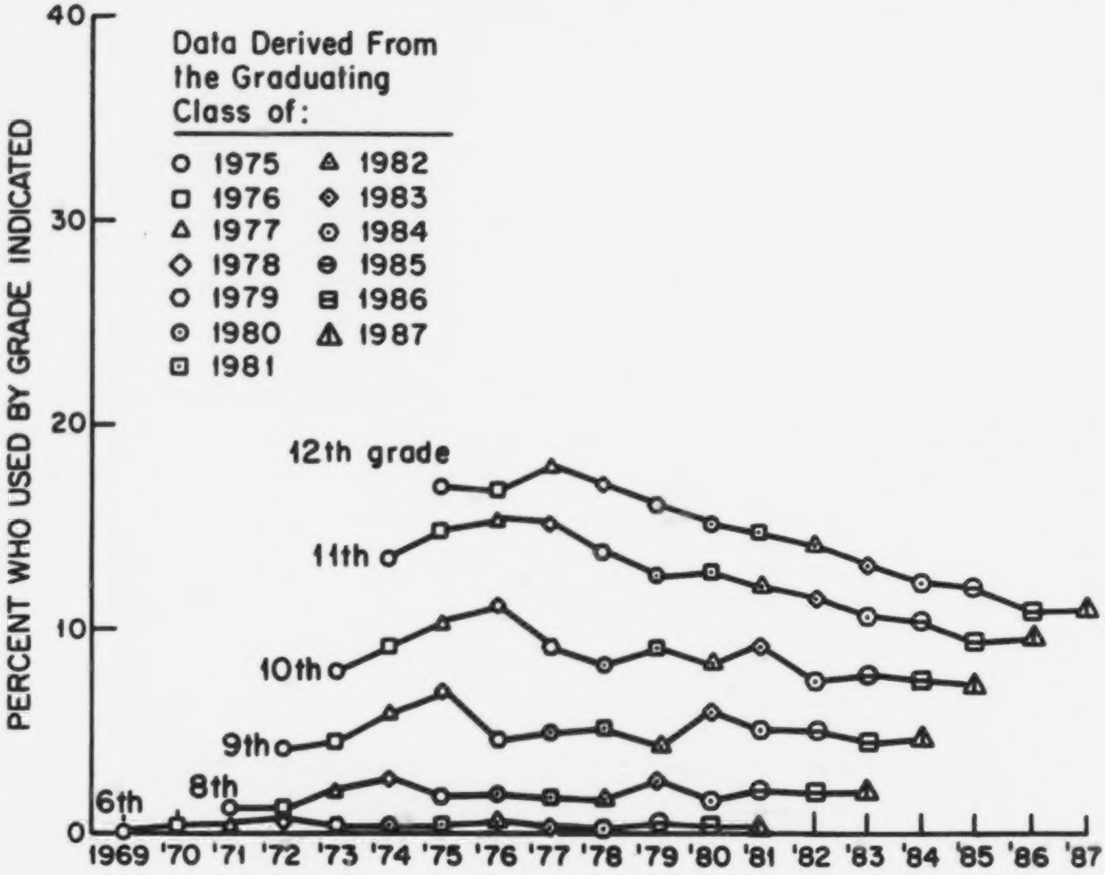


FIGURE 18p

Heroin: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

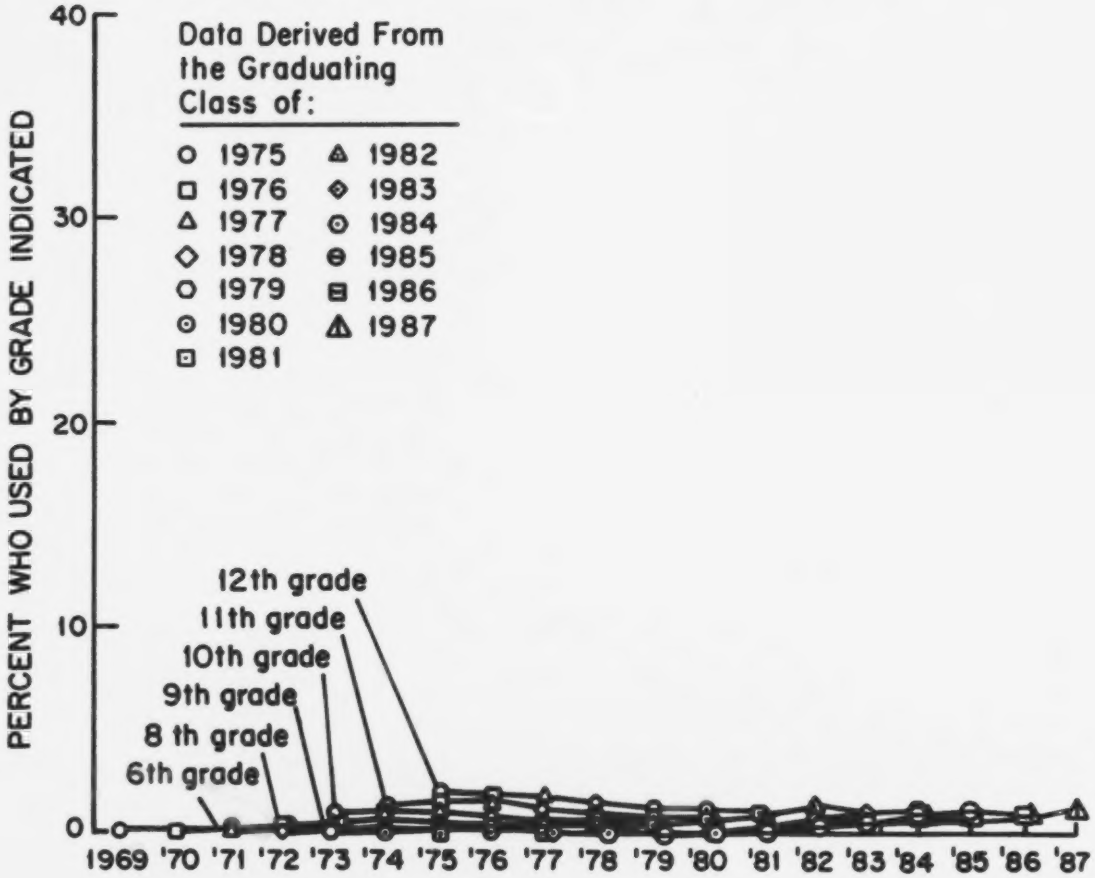


FIGURE 18q

Other Opiates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors

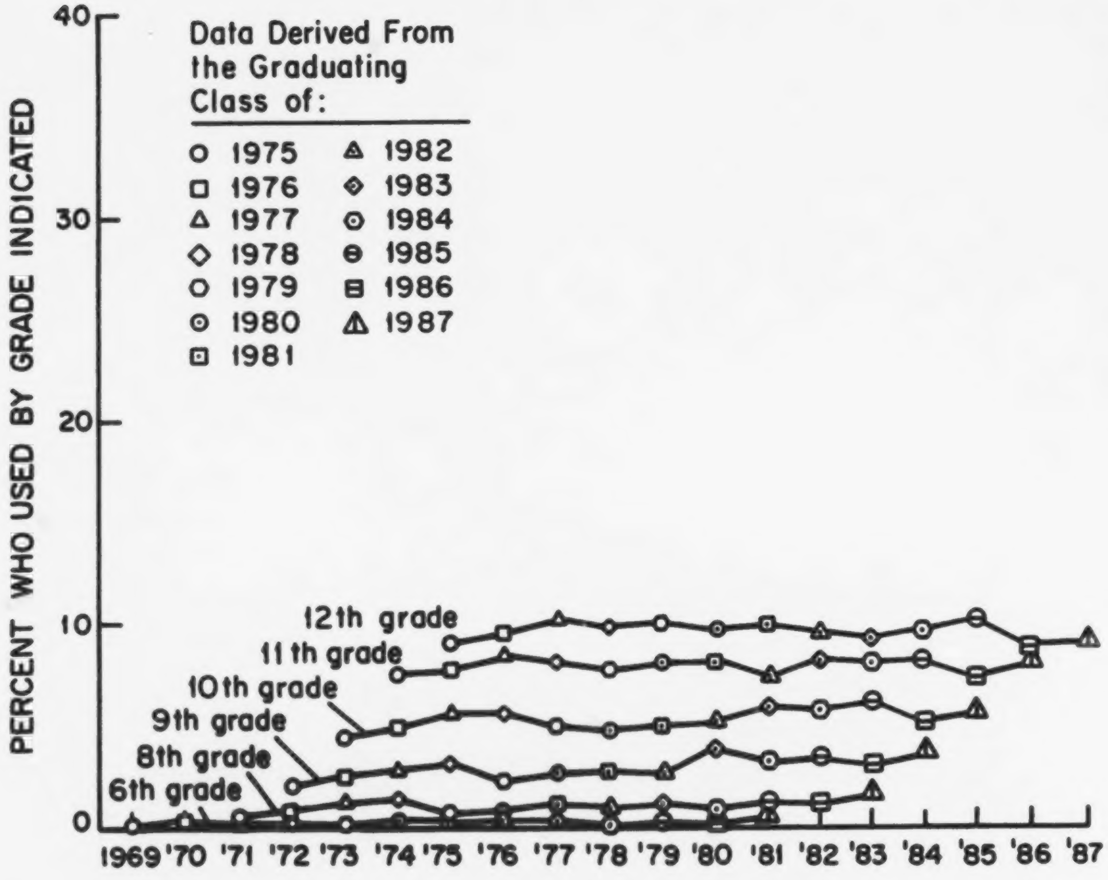


FIGURE 18r

Cigarette Smoking on a Daily Basis: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Seniors

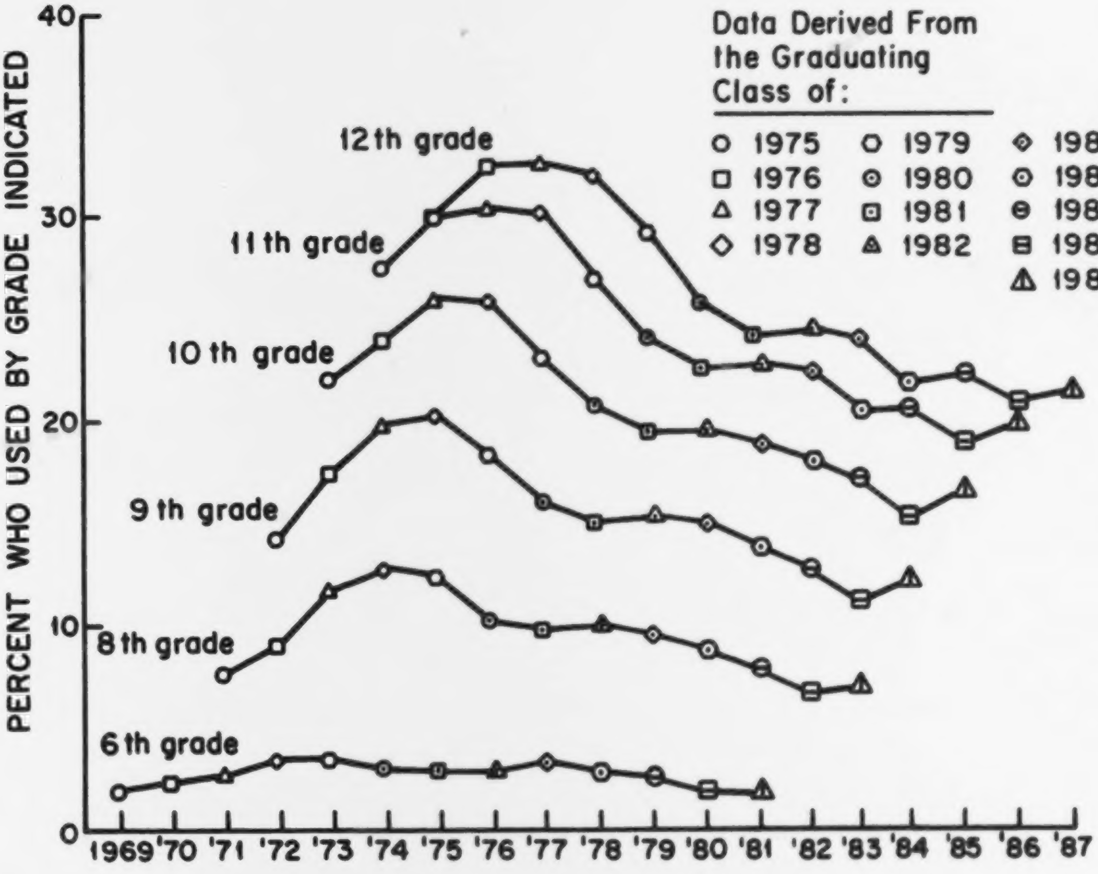
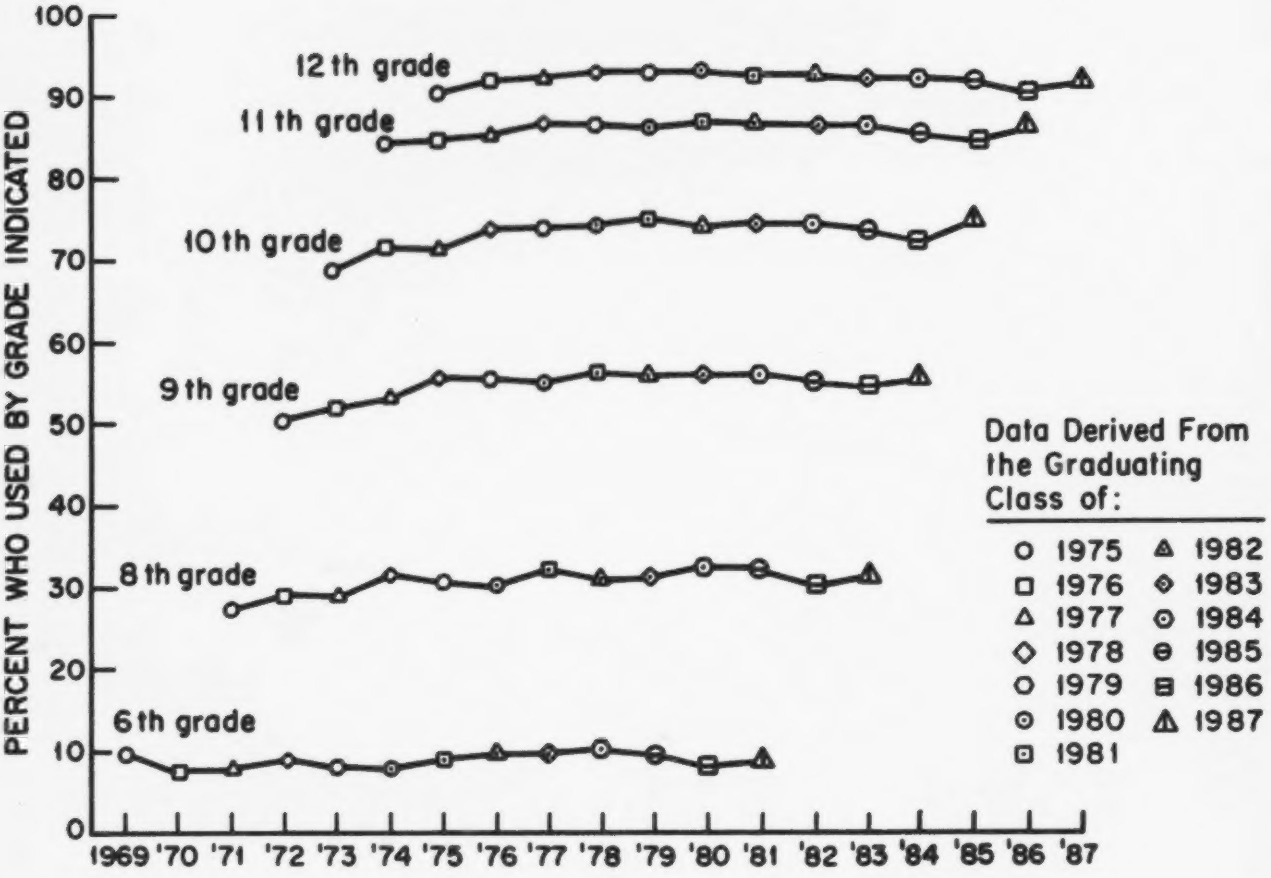


FIGURE 18s

Alcohol: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Seniors



Chapter 7

DEGREE AND DURATION OF DRUG HIGHS

On one of the five questionnaire forms, seniors who report use of a drug during the prior twelve months are asked how long they usually stay high on that drug and how high they usually get. These measures were developed both to help characterize the drug-using event and to provide indirect measures of dose or quantity of drugs consumed.

DEGREE AND DURATION OF HIGHS AMONG SENIORS IN 1987

- Figure 19 shows the proportion of 1987 seniors who say that they usually get "not at all" high, "a little" high, "moderately" high, or "very" high when they use a given type of drug. The percentages are based on all respondents who report use of the given drug class in the previous twelve months, and therefore each bar cumulates to 100%. The ordering from left to right is based on the percentage of users of each drug who report that they usually get "very" high.

- The drugs which usually result in intense highs are the ***hallucinogens*** (LSD and other hallucinogens), ***heroin***, and ***methaqualone*** (quaaludes). (Actually, this question was omitted for heroin beginning in 1982, due to small numbers of cases available each year; but an averaging across earlier years indicated that it would rank very close to LSD.)

- Following closely are ***cocaine*** and ***marijuana***, with roughly two-thirds of the users of each saying they usually get moderately high or very high when using the drug.

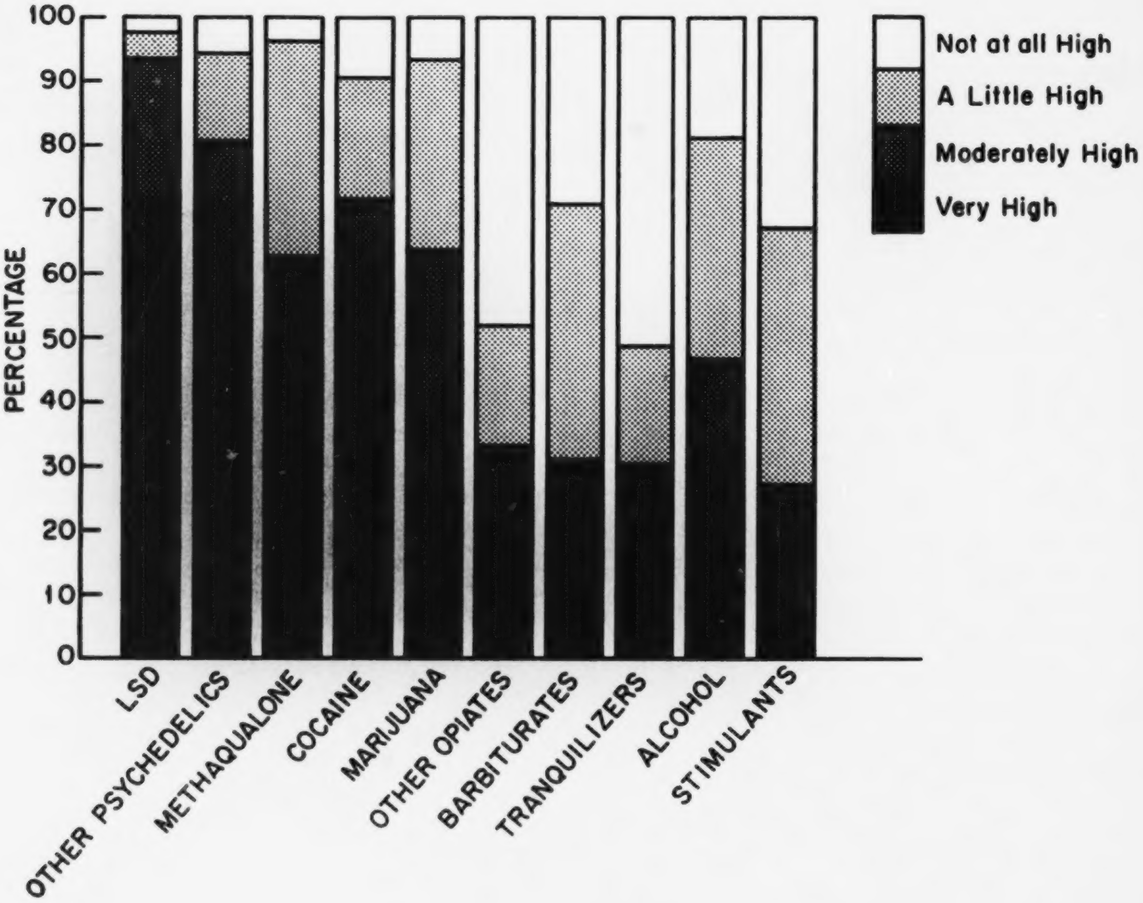
- The four major psychotherapeutic drug classes—***barbiturates***, ***opiates other than heroin***, ***tranquilizers***, and ***stimulants***—are less often used to get high; but substantial proportions of users (from 27% for stimulants to 33% for other opiates) still say they usually get moderately or very high after taking these drugs.

- Relatively few of the many seniors using ***alcohol*** say that they usually get *very* high when drinking, although nearly half usually get at least moderately high. However, for a given individual we would expect more variability from occasion to occasion in the degree of intoxication achieved with alcohol than with most of the other drugs. Therefore, many drinkers surely get very high at least sometimes, even if that is not "usually" the case.

- Figure 20 presents the data on the duration of the highs usually obtained by users of each class of drugs. The drugs are arranged in

FIGURE 19

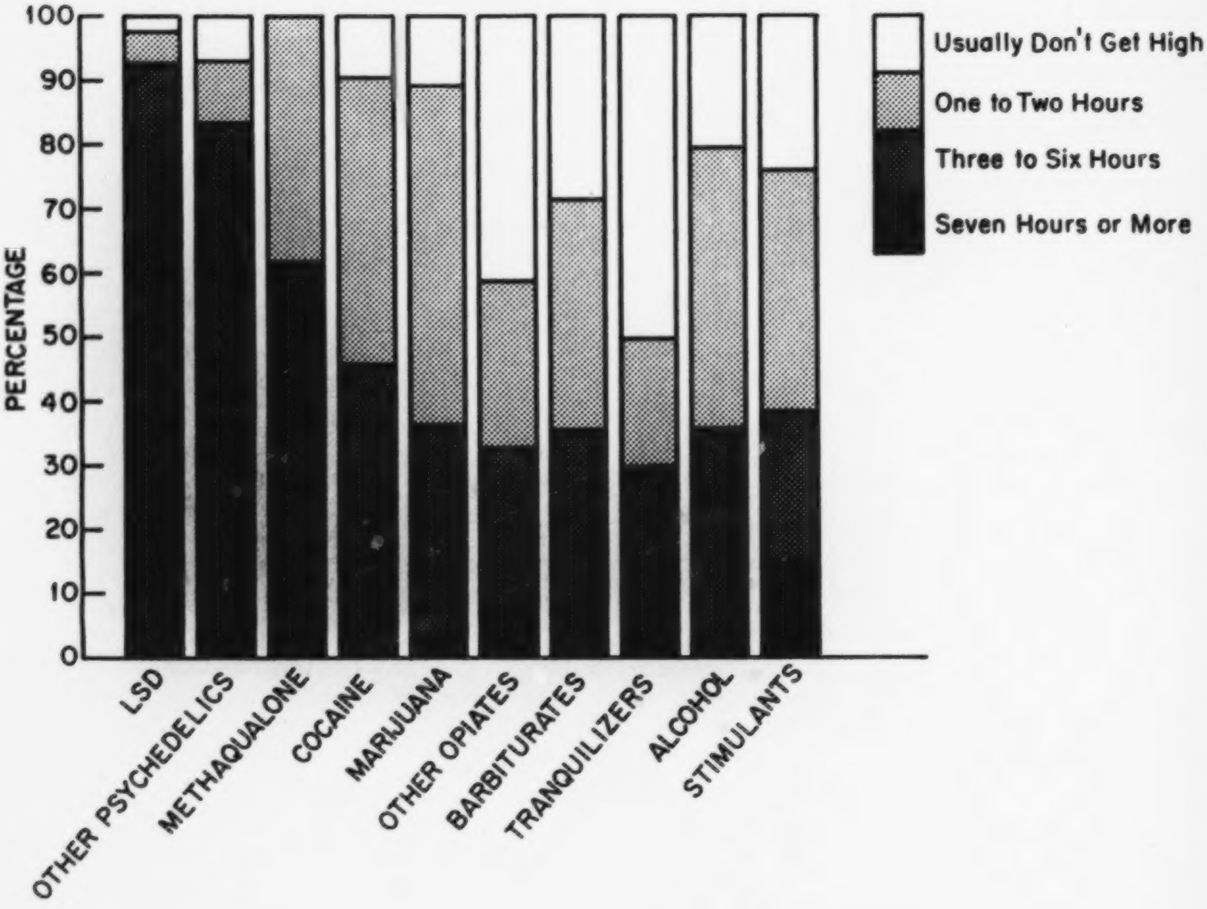
Degree of Drug Highs Attained by Recent Users
Class of 1987



NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

FIGURE 20

Duration of Drug Highs Attained by Recent Users
Class of 1987



NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

the same order as for intensity of highs to permit an examination of the amount of correspondence between the degree and duration of highs.

- As can be seen in Figure 20, those drugs which result in the most intense highs generally tend to result in the longest highs. For example, ***LSD*** and ***other hallucinogens*** rank one and two respectively on both dimensions, with substantial proportions (65% and 37%) of the users of these drugs saying they usually stay high for seven hours or more.

- However, there is not a perfect correspondence between degree and duration of highs. The highs achieved with ***marijuana***, although intense for many users, tend to be relatively short-lived in comparison with most other drugs. Fewer than 5% stay high for seven hours or more. The majority of users usually stay high two hours or less, and the modal time is one to two hours (53% of users); however, one-third (32%) report usual highs lasting 3–6 hours.

- For ***cocaine*** users the modal high is one to two hours (45%), though nearly half (46%) stay high three of more hours.

- The median duration of highs for ***methaqualone*** is three to six hours. Users of ***barbiturates, opiates other than heroin***, ***stimulants***, and ***tranquilizers*** report highs of slightly shorter duration.

- In sum, the drugs vary considerably in both the duration and degree of the highs usually obtained with them, though most have a median duration of one to two hours. (These data obviously do not address the qualitative differences in the experiences of being "high.") Sizeable proportions of the users of all of these drugs report that they usually get high for at least three hours per occasion, and for a number of drugs—particularly the hallucinogens—appreciable proportions usually stay high for seven hours or more.

TRENDS IN DEGREE AND DURATION OF DRUG HIGHS

- There have been several important shifts over the last several years in the degree or duration of highs usually experienced by users of the various drugs.

- For ***cocaine*** there has developed somewhat of an inverse relationship between the proportion of students using and the duration of the highs being reported. For example, there was a shortening between 1977 and 1981 of the average duration of highs reported—corresponding roughly to the period of greatest increase in reported prevalence, 1976 to 1980. (The proportion of users reporting highs of 2 hours or less rose from 36% to 54%, where it remained for some years while prevalence was level.) There was a further shortening of reported highs in 1985 and 1986, again corresponding roughly to an increase in reported prevalence in 1984 and 1985. In 1987, when prevalence began to drop for the first time, the average reported duration of reported highs began to lengthen again, with the proportion reporting highs of 2 hours or less falling from 64% to 55% from 1986 to 1987.

- For ***opiates other than heroin***, there has been a fairly steady decline since 1975 in both the intensity of the highs usually experienced ***and*** in the duration of those highs. In 1975, 39% said they usually got "very high" vs. 18% in 1987. The proportion usually staying high for seven or more hours dropped from 28% in 1975 to 8% in 1987. This substantial shift has occurred in part because an increasing proportion of the users say they do not take these drugs "to get high" (4% in 1975 vs. 29% in 1987).

- ***Stimulants*** showed a substantial decrease between 1975 and 1981 in the proportion of recent users usually getting very high or moderately high (down from 60% in 1975 to 37% in 1981). Consistent with this, the proportion of users saying they simply "don't take them to get high" increased from 9% in 1975 to 20% by 1981. In addition, the average reported duration of stimulant highs was declining; 41% of the 1975 users said they usually stayed high seven or more hours vs. only 17% of the 1981 users.[18] In 1982 the revised version of the question about stimulant use was introduced into the form containing subsequent questions on the degree and duration of highs. Based on this revised form, there has been some continued drop in the duration of highs obtained, and (to a lesser extent) in the degree of highs obtained.

  These substantial decreases in both the degree and duration of highs strongly suggest that over the life of the study there has been some shift in the purpose for which stimulants are being used. An examination of data on self-reported reasons for use tends to confirm this conclusion. In essence, between 1979 and 1984 there was a relative decline in the frequency with which recent users mention "social/recreational" reasons for use, and between 1976 and 1984 there was an increase in mentions of use for instrumental purposes. More recently, since 1984, the shifts have been slight, and tend ***not*** to be continuing the pre-1984 trends.

  With respect to the social/recreational shifts from 1979 to 1984, the percent of recent users citing "to feel good or get high" as a reason for stimulant use declined from 58% to 45%; in 1987 it was 42%. Similarly, "to have a good time with my friends" declined from 38%

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[18] The questionnaire form containing the questions on degree and duration of highs is one on which the amphetamine questions were clarified in 1982, to eliminate the inappropriate inclusion of nonprescription stimulants. One might have expected this change to have increased the degree and duration of highs reported, given that real amphetamines would be expected to have greater psychological impact on the average; but the trends still continued downward that year.

to 30% between 1979 and 1984; and by 1987 the figure fell to 24%. There were shifts toward more instrumental use between 1976 and 1984; to lose weight increased by 15% (to 41%); to get more energy increased 13% (to 69%); to stay awake increased by 10% (to 62%) and to get through the day increased by 10% (to 32%). Since 1984 further declines (of about 6% in each case) were observed for two of these four instrumental reasons: to lose weight and to get through the day.

Despite the ***relative*** decline seen earlier in recreational reasons for use of stimulants, it also appears that there was at least some increase in the **absolute** level of recreational use, though clearly not as steep an increase as the trends through 1981 in overall use might have suggested. The data on the number of seniors exposed to people using amphetamines "to get high or for kicks," which will be discussed further in Chapter 9, show a definite increase between 1976 and 1981 (there was a rise of 8% just between 1979 and 1981). There was no further increase in exposure to people using for those purposes in 1982, however, suggesting that recreational use, as well as overall use, had leveled off; since 1982 there has been a considerable decrease in such exposure (from 50% to 32% of all seniors), indicating a drop in the use of stimulants for recreational purposes.

- In the last few years the degree and duration of highs usually achieved by the shrinking number of ***barbiturate*** users and ***methaqualone*** users have been decreasing. The degree and duration of highs achieved by ***tranquilizer*** users also have been decreasing generally since about 1980.

- For ***marijuana*** there had been some general downward trending between 1978 and 1983 in the degree of the highs usually obtained. In 1978, 73% of users said they usually got "moderately high" or "very high"—a figure which dropped to 64% by 1983, and still stands at 64% in 1987. Some interesting changes also took place in the duration figures between 1978 and 1983. Recall that most marijuana users say they usually stay high either one to two hours ***or*** three to six hours. Between 1975 and 1983 there was a steady decline in the proportion of users saying they stayed high three or more hours (from 52% in 1975 to 35% in 1983); the proportion stands at 36% in 1987. Until 1979 this shift could have been due almost entirely to the fact that progressively more seniors were using marijuana; and the users in more recent classes, who would ***not*** have been users in earlier classes, probably tended to be relatively light users. (We deduce this from the fact that the percentage of ***all*** seniors reporting three to six hour highs remained relatively unchanged from 1975 to 1979, while the percentage of all seniors reporting only one to two hour highs increased steadily (from 16% in 1975 to 25% in 1979).)

However, the overall prevalence rate did ***not*** increase over the past eight years (annual prevalence actually dropped by 15%), but the shift toward shorter average highs continued. Thus we must attribute this shift to another factor, and the one which seems most likely is a general shift (even among the most marijuana-prone segment) toward a less frequent (or less intense) use of the drug. The drop in daily prevalence since 1979, which certainly is disproportionate to the drop in overall prevalence, is consistent with this interpretation. Also consistent is the fact that the average number of "joints" smoked per day (among those who reported any use in the prior month) has been dropping. In 1976, 49% of the recent (past 30 days) users of marijuana indicated that they averaged less than one "joint" per day in the prior 30 days, but by 1987 this proportion had risen to 72%. In sum, not only are fewer high school students now using marijuana, but those who are using seem to be using less frequently and to be taking smaller amounts (and doses of the active ingredient) per occasion.

- There are no clearly discernible patterns in the intensity or duration of the highs being experienced with ***LSD*** or ***hallucinogens other than LSD***. (Data have not been collected for highs experienced in the use of ***inhalants***, the ***nitrites*** specifically, or ***PCP*** specifically; and the number of admitted ***heroin*** users on a single questionnaire form is inadequate to estimate trends reliably.)

- The intensity and duration of highs associated with ***alcohol*** use have been quite stable throughout the study period.

Chapter 8

ATTITUDES AND BELIEFS ABOUT DRUGS AMONG SENIORS

This section presents the cross-time results for three sets of attitude and belief questions. One set concerns seniors' views about how harmful various kinds of drug use would be for the user, the second asks how much seniors personally disapprove of various kinds of drug use, and the third deals with attitudes on the legality of using various drugs under different conditions. (The next section covers the closely related topics of parents' and friends' attitudes about drugs, as the seniors perceive them.)

As the data below show, overall percentages disapproving various drugs, and the percentages believing their use to involve serious risk, both tend to parallel the percentages of actual users. Thus, for example, of the illicit drugs marijuana is the most frequently used and the least likely to be seen as risky to use. This and many other such parallels suggest that the individuals who use a drug are less likely to disapprove use of it or to view its use as involving risk. A series of individual-level analyses of these data confirms this conclusion: strong correlations exist between individual use of drugs and the various attitudes and beliefs about those drugs. Those seniors who use a given drug also are more likely to approve its use, see it as less dangerous, and report their own parents and friends as being at least somewhat more accepting of its use.

The attitudes and beliefs about drug use reported below have been changing during recent years, along with actual behavior. In particular, views about marijuana use, and legal sanctions against use, have shown important trends.

Beginning in 1979, scientists, policy makers, and in particular the electronic and printed media, have given considerable attention to the increasing levels of regular marijuana use among young people, and to the potential hazards associated with such use. As will be seen below, attitudes and beliefs about regular use of marijuana have shifted dramatically since 1979 in a more conservative direction—a shift which coincides with a reversal in the previous rapid rise of daily use, and which very likely reflects the impact of this increased public attention. More recently, a similar shift has begun to occur for cocaine.

PERCEIVED HARMFULNESS OF DRUGS

Beliefs in 1987 about Harmfulness

- A substantial majority of high school seniors perceive *regular* use of ***any of the illicit drugs*** as entailing "great risk" of harm for the user (see Table 16). Some 89% of the sample feel this way about ***heroin***—the highest proportion for any of these drugs—and now the same proportion associate great risk with using ***cocaine***. The proportions attributing great risk to ***LSD***, ***barbiturates***, and ***amphetamines*** are 84%, 69%, and 69%, respectively.

- Regular use of ***cigarettes*** (i.e., one or more packs a day) is judged by two-thirds of all seniors (69%) as entailing a great risk of harm for the user.

- Regular use of ***marijuana*** is judged to involve great risk by 74% of the sample, slightly more than judge cigarette smoking to involve great risk, perhaps in part because marijuana can have dramatic short-term impacts on mood, behavior, memory, etc., in addition to any long-term physiological impacts.

- Regular use of ***alcohol*** was more explicitly defined in several questions. Relatively few (26%) associate much risk of harm with having one or two drinks almost daily. Only four in every ten (42%) think there is great risk involved in having five or more drinks once or twice each weekend. Over two-thirds (70%) think the user takes a great risk in consuming four or five drinks nearly every day, but this means that nearly a third of the students do not view this pattern of regular heavy drinking as entailing great risk.

- Compared with the above perceptions about the risks of regular use of each drug, many fewer respondents feel that a person runs a "great risk" of harm by simply trying the drug once or twice.

- Relatively few think there is much risk in using ***marijuana*** experimentally (18%) or even occasionally (30%).

- Experimental use of the other illicit drugs, however, is still viewed as risky by substantial proportions. The percentages associating great risk with experimental use range from about 30% for ***amphetamines*** and ***barbiturates*** to 54% for ***heroin***. Regarding ***cocaine***, about a half (48%) see great risk involved in experimenting with it, while two-thirds (67%) see great risk in occasional use.

- Practically no one (6%) believes there is much risk involved in trying an ***alcoholic beverage*** once or twice.

Trends in Perceived Harmfulness

- Several very important trends have been taking place in recent years in these beliefs about the dangers associated with using various drugs (see Table 16 and Figures 21, 22, and 23).

- One of the most important trends involves ***marijuana*** (Figure 21). From 1975 through 1978 there had been a decline in the harmfulness perceived to be associated with all levels of marijuana use; but in 1979, for the first time, there was an increase in these proportions—an increase which preceded any appreciable downturn in use and which has continued fairly steadily since then. By far the most

TABLE 16

Trends in Harmfulness of Drugs as Perceived by Seniors

	Percentage saying "great risk"[a]													
Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Try marijuana once or twice	15.1	11.4	9.5	8.1	9.4	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	+3.3ss
Smoke marijuana occasionally	18.1	15.0	13.4	12.4	13.5	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	+5.4sss
Smoke marijuana regularly	43.3	38.6	36.4	34.9	42.0	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	+2.2
Try LSD once or twice	49.4	45.7	43.2	42.7	41.6	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	+2.9
Take LSD regularly	81.4	80.8	79.1	81.1	82.4	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	+1.2
Try PCP once or twice	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	55.6	NA
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	+14.4sss
Take cocaine occasionally	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	54.2	66.8	+12.6sss
Take cocaine regularly	73.1	72.3	68.2	68.2	69.5	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	+6.3sss
Try heroin once or twice	60.1	58.9	55.8	52.9	50.4	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	+7.8sss
Take heroin occasionally	75.6	75.6	71.9	71.4	70.9	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	+6.4sss
Take heroin regularly	87.2	88.6	86.1	86.6	87.5	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	+1.6
Try amphetamines once or twice	35.4	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	+4.0ss
Take amphetamines regularly	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	+2.1
Try barbiturates once or twice	34.8	32.5	31.2	31.3	30.7	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	+5.5sss
Take barbiturates regularly	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	+2.2
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.3	4.8	4.1	3.4	4.1	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	+1.6s
Take one or two drinks nearly every day	21.5	21.2	18.5	19.6	22.6	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	+1.1
Take four or five drinks nearly every day	63.5	61.0	62.9	63.1	66.2	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	+3.2s
Have five or more drinks once or twice each weekend	37.8	37.0	34.7	34.5	34.9	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	+2.8
Smoke one or more packs of cigarettes per day	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	+2.6
Approx. N =	(2804)	(2918)	(3052)	(3770)	(3250)	(3234)	(3604)	(3557)	(3305)	(3262)	(3250)	(3020)	(3315)	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

FIGURE 21

Trends in Perceived Harmfulness: Marijuana and Cigarettes
All Seniors

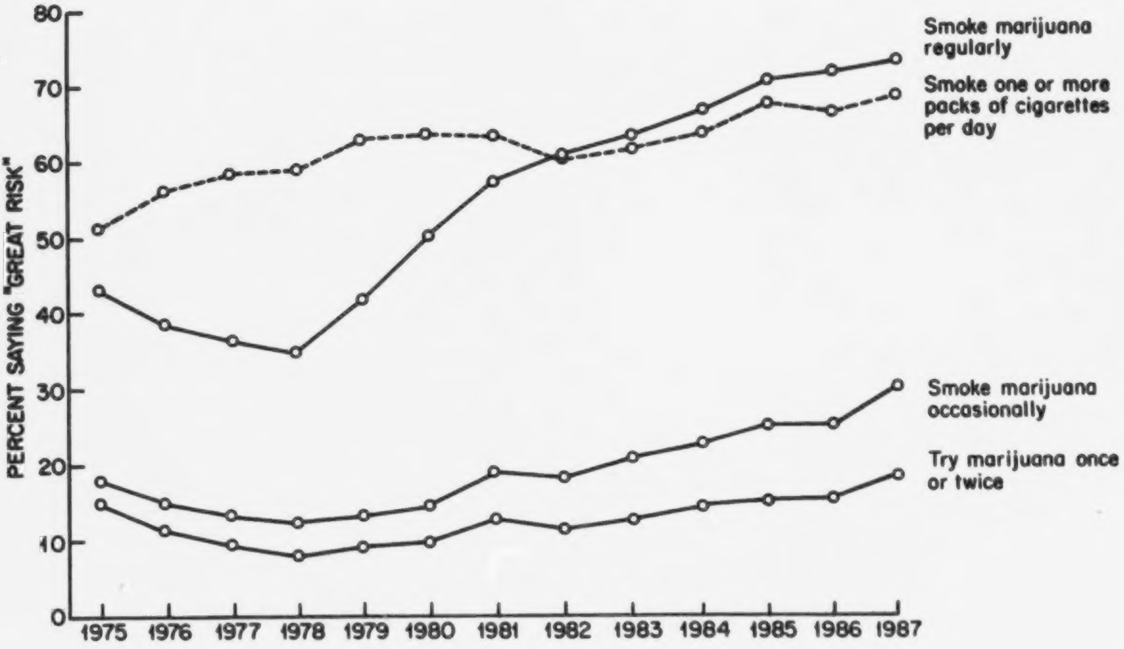


FIGURE 22

Trends in Perceived Harmfulness: Cocaine
All Seniors

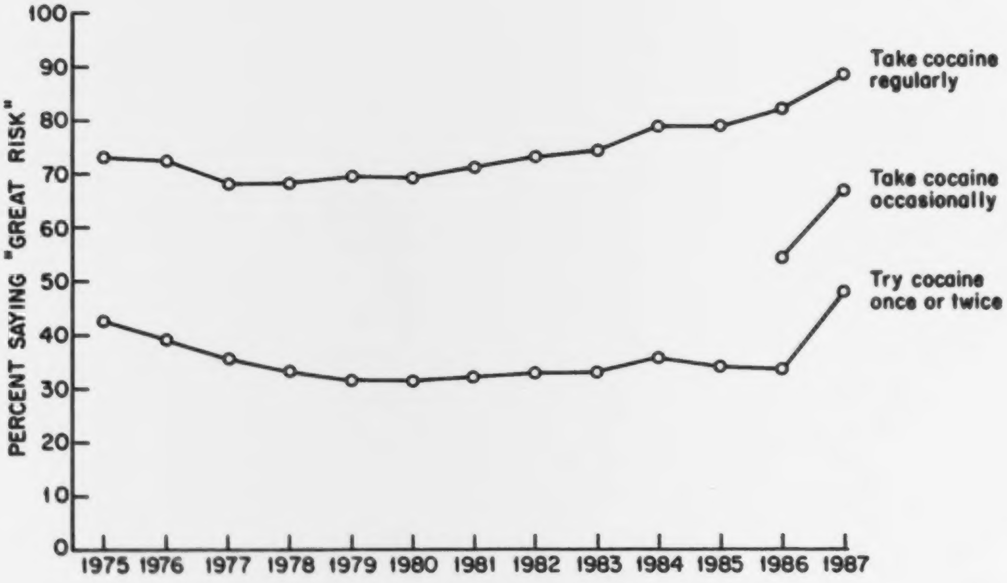
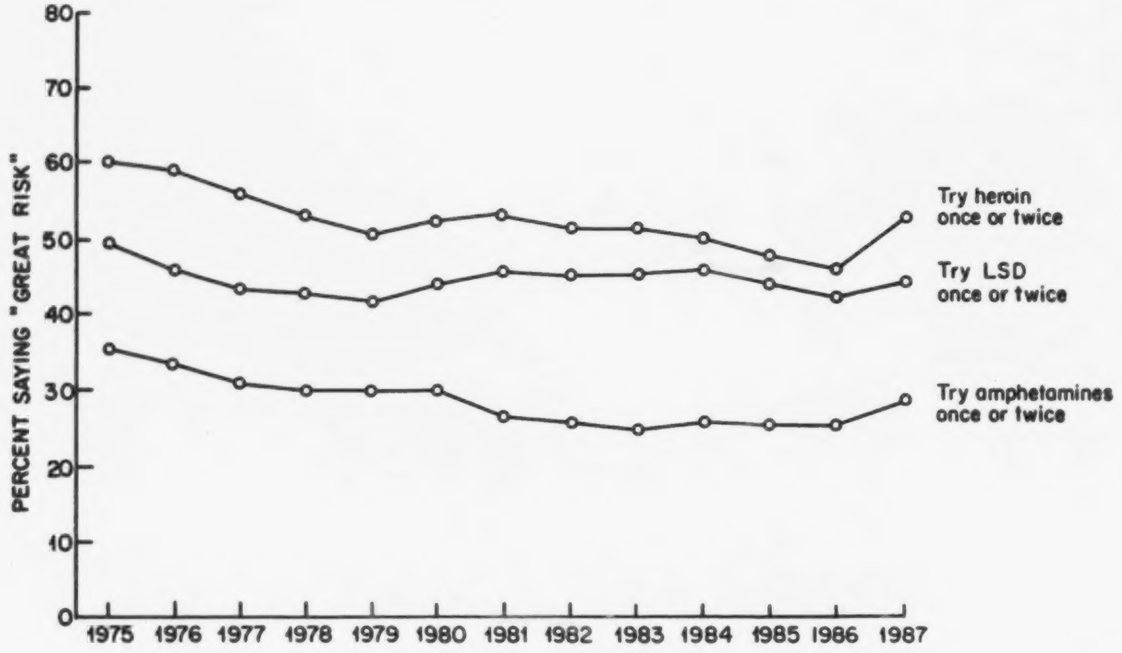


FIGURE 23

Trends in Perceived Harmfulness: Other Drugs
All Seniors



impressive increase has occurred for ***regular marijuana use***, where the proportion perceiving it as involving a great risk has more than doubled in nine years—from 35% in 1978 to 74% in 1987. This dramatic change occurred during a period in which a substantial amount of scientific and media attention was being devoted to the potential dangers of heavy marijuana use. While there have been some upward shifts in concerns about the harmfulness of occasional, and even experimental, use, they have been nowhere nearly as large. All of these shifts continued in 1987, and they appear to have accelerated, perhaps due in part to the effects of prevention efforts in the media.

- A somewhat similar cross-time profile of attitudes now appears to be emerging for ***cocaine*** (Figure 22). First, the percentage who perceived great risk in *trying cocaine* once or twice dropped steadily from 43% to 31% between 1975 and 1980, which generally corresponds to the period of rapidly increasing use. However, rather than reversing sharply, as did perceived risk for marijuana, perceived risk for experimental cocaine use moved rather little for the next six years, 1980 to 1986, corresponding to a fairly stable period in terms of actual prevalence in use. Then perceived risk for experimenting with cocaine jumped sharply from 34% to 48% in a single year between 1986 and 1987; and in that year the first significant decline in use took place. We believe this change in attitude had an important impact on the behavior. Actually, perceived risk for *regular* cocaine use had begun to rise earlier, increasing gradually from 69% in 1980 to 82% in 1986; but we believe that the change in this statistic did not translate into a change in behavior, as happened for marijuana, because so few high school seniors are regular users (unlike the situation with marijuana) and most probably did not expect to be. Thus, as we have predicted earlier, it was not until their attitudes about experimental (and possibly occasional) use began to change that this class of attitudes began to affect behavior.

  Just as we interpret the change in actual behavior between 1986 and 1987 to have resulted from changes in the risk associated with experimental and occasional use, we believe the changes in these attitudes to have resulted from two other factors: (1) the greatly increased media coverage of cocaine and its dangers which occurred in that interval (including many anti-drug "spots") and (2) the tragic deaths of sports stars Len Bias and Don Rogers, both of which were caused by cocaine. The latter events, we believe, helped to bring home first the notion that no one—regardless of age or physical condition—is invulnerable to being killed by cocaine, and second the notion that one does not have to be an addict or regular user to suffer such adverse consequences.

- There also had been an important increase, though over a longer period, in the number who thought pack-a-day ***cigarette*** smoking involved great risk to the user (from 51% in 1975 to 64% in 1980).

This shift corresponded with, and to some degree preceded, the downturn in regular smoking found in this age group (compare Figures 9f and 21). But between 1980 and 1984 this statistic showed no further increase (presaging the end of the decline in use). Since 1984, the percent perceiving great risk in regular smoking has risen less than five percent. What may be most important is that still about a third (31%) of these young people do not believe there is a great risk in smoking a pack or more of cigarettes per day, despite all that is known today about the health consequences of cigarette smoking.

- For most of the ***other illicit drugs***, the period from 1975 to 1979 marked a modest but consistent trend in the direction of fewer students associating much risk with experimental or occasional use of them (Table 16 and Figure 23). Only for ***amphetamines*** and ***barbiturates*** did this trend continue beyond 1979, until about 1982 in both cases. Over the next several years there was little change, although perceived risk of harm in experimental or occasional use of the illicit drugs other than marijuana all dropped slightly in 1985 and 1986. However, the perceived risk of experimental or occasional use increased for all drugs in 1987.

- In sum, between 1975 and 1979 there was a distinct decline in perceived harmfulness associated with use of all the illicit drugs. Since 1979, there has been a dramatic increase in concerns about regular marijuana use, and a more modest increase in concerns about use of that drug at less frequent levels. In 1987 there was a sharp increase in the risks associated with cocaine use—particularly at the experimental level—and an increase in perceived risk for virtually all of the other illicit drugs, as well.

- Beliefs concerning the risk associated with ***alcohol*** use at various levels have remained largely unchanged over the past eight years. The one exception occurred with ***occasional heavy drinking***, where the proportion perceiving great risk rose from a low of 35% in 1979 to 43% in 1985. Almost half (3%) of this 8% change occurred in 1984 alone, the first year in which the reported prevalence of this type of drinking actually declined. Thus the gradual change in beliefs about the riskiness of this behavior preceded a change in use by several years—once again suggesting the importance of these beliefs in determining behavior. Unfortunately, there has been rather little change in this statistic since 1985, coincident with an end to the decline in occasional heavy use.

PERSONAL DISAPPROVAL OF DRUG USE

A different set of questions was developed to try to measure the moral sentiment respondents attach to various types of drug use. The phrasing, "Do you disapprove of people (who are 18 or older) doing each of the following" was adopted.

Extent of Disapproval in 1987

- The vast majority of these students do not condone regular use of ***any of the illicit drugs*** (see Table 17). Even regular marijuana use is disapproved by 89%, and regular use of each of the other illicits receives disapproval from between 95% and 98% of today's high school seniors.

- Smoking a pack (or more) of ***cigarettes*** per day receives the disapproval of 74% of the age group.

- ***Drinking*** at the rate of one or two drinks daily is disapproved by 74% of the seniors. A curious finding is that weekend binge drinking (five or more drinks once or twice each weekend) is acceptable to more seniors than is moderate daily drinking; only 62% disapprove of having five or more drinks once or twice a weekend. This is in spite of the fact that more seniors associate great risk with weekend binge drinking (42%) than with the daily drinking (26%). One likely explanation for these anomalous findings may be the fact that a greater proportion of this age group are themselves weekend binge drinkers rather than moderate daily drinkers. They thus express attitudes accepting of their own behavior, even though such attitudes may be somewhat inconsistent with their beliefs about possible consequences.

- For each of the drugs included in the question, fewer people indicate disapproval of experimental or occasional use than of regular use, as would be expected. The differences are not great, however, for the illicit drugs other than marijuana. For example, 87% disapprove experimenting with cocaine vs. 97% who disapprove its regular use.

- For ***marijuana***, however, the rate of disapproval varies substantially for different usage habits although not as much as it did in the past. The great majority (89%) now disapprove regular use, while only a little more than half (57%) disapprove trying it.

Trends in Disapproval

- Between 1975 and 1977 there occurred a substantial decrease in disapproval of ***marijuana*** use at any level of frequency (see Table 17, and Figure 25 in next chapter). About 14% fewer seniors in the class of 1977 (compared with the class of 1975) disapproved of experimenting, 11% fewer disapproved of occasional use, and 6% fewer disapproved of regular use. Since 1977, however, there has been a substantial reversal of that trend, with disapproval of experimental use having risen by 23%, disapproval of occasional use by 27%, and disapproval of regular use by 24%. (These trends continued in 1987.)

TABLE 17
Trends in Proportions of Seniors Disapproving of Drug Use

Q. Do you disapprove of people (who are 18 or older) doing each of the following?[b]	Percentage "disapproving"[a]													
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Try marijuana once or twice	47.0	38.4	33.4	33.4	34.2	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	+2.0
Smoke marijuana occasionally	54.8	47.8	44.3	43.5	45.3	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	+2.6
Smoke marijuana regularly	71.9	69.5	65.5	67.5	69.2	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	+2.6s
Try LSD once or twice	82.8	84.6	83.9	85.4	86.6	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	+2.4ss
Take LSD regularly	94.1	95.3	95.8	96.4	96.9	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	+1.2s
Try cocaine once or twice	81.3	82.4	79.1	77.0	74.7	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	+7.1sss
Take cocaine regularly	93.3	93.9	92.1	91.9	90.8	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	+2.4sss
Try heroin once or twice	91.5	92.6	92.5	92.0	93.4	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	+2.9sss
Take heroin occasionally	94.8	96.0	96.0	96.4	96.8	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	+1.3s
Take horoin regularly	96.7	97.5	97.2	97.8	97.9	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	+0.5
Try amphetamines once or twice	74.8	75.1	74.2	74.8	75.1	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	+4.2ss
Take amphetamines regularly	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	+1.9ss
Try barbiturates once or twice	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	+2.8ss
Take barbiturates regularly	93.3	93.6	93.0	94.3	95.2	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	+1.5s
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	21.6	18.2	15.6	15.6	15.8	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	+0.5
Take one or two drinks nearly every day	67.6	68.9	66.8	67.7	68.3	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	+1.4
Take four or five drinks nearly every day	88.7	90.7	88.4	90.2	91.7	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	+0.8
Have five or more drinks once or twice each weekend	60.3	58.6	57.4	56.2	56.7	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	−0.4
Smoke one or more packs of cigarettes per day	67.5	65.9	66.4	67.0	70.3	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	−1.1
Approx. N =	(2677)	(2957)	(3085)	(3686)	(3221)	(3261)	(3610)	(3651)	(3341)	(3254)	(3265)	(3113)	(3302)	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[b] The 1975 question asked about people who are "20 or older."

- Until 1980 the proportion of seniors who disapproved trying ***amphetamines*** had remained extremely stable (at 75%). This proportion dropped slightly in 1981 (to 71%), but increased thereafter and reached 81% in 1987.

- During the late 1970's personal disapproval of experimenting with ***barbiturates*** had been increasing (from 78% in 1975 to 84% in 1979). It then remained relatively stable until 1986, when it began to increase. In 1987 it increased significantly to 90%.

- Concurrent with the years of increase in actual ***cocaine*** use, disapproval of experimental use of cocaine had declined somewhat, from a high of 82% in 1976 down to 75% in 1979. It then leveled for four years, edged up to about 80% in 1986, and then rose significantly in 1987 so that 87% of seniors now disapprove of trying cocaine.

- We believe that the parallel trends between perceived risk and disapproval—particularly for marijuana—are no accident. We hypothesize that perceived risk influences personal disapproval of a drug-using behavior. As the personal disapproval of individuals changes on average, perceived norms also change.

- In earlier years disapproval of regular ***cigarette*** smoking had been increasing modestly (from 66% in 1976 to 71% in 1980). It then remained fairly stable through 1983. There was a modest increase between 1983 and 1986, followed by a slight decrease (−1.1%) in 1987, with 74% of seniors saying they disapprove of regular cigarette smoking.

- There has been relatively little change in attitudes regarding ***alcohol*** use, with one exception. There was a slight softening of attitudes regarding weekend binge drinking, with disapproval dropping from 60% in 1975 to 56% in 1978; recently, disapproval has been increasing, to a high of 62% in 1986 where it remained in 1987.

ATTITUDES REGARDING THE LEGALITY OF DRUG USE

Since the legal restraints on drug use appeared likely to be in a state of flux for some time, we decided at the beginning of the study to measure attitudes about legal sanctions. Table 18 presents a statement of one set of general questions on this subject along with the answers provided by each senior class. The set lists a sampling of illicit and licit drugs and asks whether their use should be prohibited by law. A distinction is consistently made between use in public and use in private—a distinction which proved quite important in the results.

TABLE 18

Trends in Seniors' Attitudes Regarding Legality of Drug Use

Q. Do you think that people (who are 18 or older) should be prohibited by law from doing each of the following?[b]	Percentage saying "yes"[a]													
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Smoke marijuana in private	32.8	27.5	26.8	25.4	28.0	28.9	35.4	36.6	37.8	41.6	44.7	43.8	47.6	+3.8s
Smoke marijuana in public places	63.1	59.1	58.7	59.5	61.8	66.1	67.4	72.8	73.6	75.2	78.2	78.9	79.7	+0.8
Take LSD in private	67.2	65.1	63.3	62.7	62.4	65.8	62.6	67.1	66.7	67.9	70.6	69.0	70.8	+1.8
Take LSD in public places	85.8	81.9	79.3	80.7	81.5	82.8	80.7	82.1	82.8	82.4	84.8	84.9	85.2	+0.3
Take heroin in private	76.3	72.4	69.2	68.8	68.5	70.3	68.8	69.3	69.7	69.8	73.3	71.7	75.0	+3.3s
Take heroin in public places	90.1	84.8	81.0	82.5	84.0	83.8	82.4	82.5	83.7	83.4	85.8	85.0	86.2	+1.2
Take amphetamines or barbiturates in private	57.2	53.5	52.8	52.2	53.4	54.1	52.0	53.5	52.8	54.4	56.3	56.8	59.1	+2.3
Take amphetamines or barbiturates in public places	79.6	76.1	73.7	75.8	77.3	76.1	74.2	75.5	76.7	76.8	78.3	79.1	79.8	+0.7
Get drunk in private	14.1	15.6	18.6	17.4	16.8	16.7	19.6	19.4	19.9	19.7	19.8	18.5	18.6	+0.1
Get drunk in public places	55.7	50.7	49.0	50.3	50.4	48.3	49.1	50.7	52.2	51.1	53.1	52.2	53.2	+1.0
Smoke cigarettes in certain specified public places	NA	NA	42.0	42.2	43.1	42.8	43.0	42.0	40.5	39.2	42.8	45.1	44.4	−0.7
Approx. N =	(2620)	(2959)	(3113)	(3783)	(3288)	(3224)	(3611)	(3627)	(3315)	(3236)	(3254)	(3074)	(3332)	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] Answer alternatives were: (1) No, (2) Not sure, and (3) Yes.

[b] The 1975 question asked about people who are "20 or older."

Attitudes in 1987

- The great majority of seniors believe that the use in public of ***illicit drugs other than marijuana*** should be prohibited by law (e.g., 80% in the case of amphetamines and barbiturates, 86% for heroin). Only about 10% to 20% fewer think the use of these drugs in private should be legal.

- The great majority (80%) also favor legally prohibiting ***marijuana*** use in public places, despite the fact that the majority have used marijuana themselves, and despite the fact that they do not judge it to be as dangerous a drug as the others. But considerably fewer (48%) feel that marijuana use in private should be prohibited.

- Fully 44% believe that ***cigarette*** smoking in public places should be prohibited by law. Only slightly more think ***getting drunk*** in such places should be prohibited (53%).

- For ***all drugs***, fewer students believe that use in private settings should be illegal.

Trends in These Attitudes

- From 1975 through 1977 there was a modest decline (shifts of 4% to 7%, depending on the substance) in the proportion of seniors who favored legal prohibition of private use of ***any of the illicit drugs***. By 1987, however, these proportions have all increased.

- Over the past eight years (from 1979 to 1987) there has been an appreciable rise in the proportion favoring legal prohibition of ***marijuana*** use, either in private (up from 28% to 48%) or in public (up from 62% to 80%).

- For other illicit drugs, the changes are more modest, but between 1981 and 1987 all showed increased proportions favoring prohibition.

- There has been very little change since 1977, the year of first measurement, in the proportion of seniors who say ***smoking cigarettes*** in certain specified public places should be prohibited by law. In 1977 some 42% held this view vs. 44% in 1987. There has similarly been rather little change in seniors' preferences about the illegality of ***drunkenness*** in public or private places. The stability of attitudes about the preferred legality for these two culturally ingrained drug-using behaviors contrasts sharply with the lability of preferences regarding the legality of the other drugs.

THE LEGAL STATUS OF MARIJUANA

Another set of questions goes into more detail about what legal sanctions, if any, students think should be attached to the use and sale of marijuana. Respondents also are asked to guess how they would be likely to react to legalized use and sale of the drug. While the answers to such a question must be interpreted cautiously, a special study of the effects of marijuana decriminalization at the state level, conducted as part of the Monitoring the Future series, suggests that in the aggregate their predictions about how they would react proved relatively accurate.[19]

Attitudes and Predicted Response to Legalization

- As shown in Table 19, less than one-sixth of all seniors believe marijuana use should be entirely legal (15%). One out of four (25%) feel it should be treated as a minor violation—like a parking ticket—but not as a crime. Another 15% indicate no opinion, leaving nearly half (45%) who feel it still should be treated as a crime.

- Asked whether they thought it should be legal to sell marijuana if it were legal to use it, half (50%) said "yes." However, nearly all of these respondents would permit sale *only* to adults, thus suggesting more conservatism on this subject than might generally be supposed.

- High school seniors predict that they would be little affected personally by the legalization of either the sale or the use of marijuana. Nearly two-thirds (65%) of the respondents say that they would not use the drug even if it were legal to buy and use, and another 18% indicate they would use it about as often as they do now, or less. Only 4% say they would use it more often than at present and only another 7% think they would try it. Some 6% say they do not know how they would react. The special study of the effects of decriminalization at the state level during the late seventies (which falls well short of the hypothetical situation posited in this question) revealed no evidence of any impact on the use of marijuana, nor even on attitudes and beliefs concerning its use.

Trends in Attitudes and Predicted Responses

- Between 1976 and 1979 seniors' preferences for decriminalization or legalization remained fairly constant; but in the past six years there has been a sharp drop in the proportion favoring outright legalization (down from 32% in 1979 to 15% in 1987), while there was a corresponding increase in the proportion saying marijuana use should be a crime (from 24% to 45%).

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[19] See Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1981). *Marijuana decriminalization: The impact on youth, 1975–1980* (Monitoring the Future Occasional Paper No. 13). Ann Arbor: Institute for Social Research.

TABLE 19

Trends in Seniors' Attitudes Regarding Marijuana Laws

(Entries are percentages)

Q. There has been a great deal of public debate about whether marijuana use should be legal. Which of the following policies would you favor?	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987
Using marijuana should be entirely legal	27.3	32.6	33.6	32.9	32.1	26.3	23.1	20.0	18.9	18.6	16.6	14.9	15.4
It should be a minor violation like a parking ticket but not a crime	25.3	29.0	31.4	30.2	30.1	30.9	29.3	28.2	26.3	23.6	25.7	25.9	24.6
It should be a crime	30.5	25.4	21.7	22.2	24.0	26.4	32.1	34.7	36.7	40.6	40.8	42.5	45.3
Don't know	16.8	13.0	13.4	14.6	13.8	16.4	15.4	17.1	18.1	17.2	16.9	16.7	14.8
Q. If it were legal for people to USE marijuana, should it also be legal to SELL marijuana?													
No	27.8	23.0	22.5	21.8	22.9	25.0	27.7	29.3	27.4	30.9	32.6	33.0	36.0
Yes, but only to adults	37.1	49.8	52.1	53.6	53.2	51.8	48.6	46.2	47.6	45.8	43.2	42.2	41.2
Yes, to anyone	16.2	13.3	12.7	12.0	11.3	9.6	10.5	10.7	10.5	10.6	11.2	10.4	9.2
Don't know	18.9	13.9	12.7	12.6	12.6	13.6	13.2	13.8	14.6	12.8	13.1	14.4	13.6
Q. If marijuana were legal to use and legally available, which of the following would you be most likely to do?													
Not use it, even if it were legal and available	53.2	50.4	50.6	46.4	50.2	53.3	55.2	60.0	60.1	62.0	63.0	62.4	64.9
Try it	8.2	8.1	7.0	7.1	6.1	6.8	6.0	6.3	7.2	6.6	7.5	7.6	7.3
Use it about as often as I do now	22.7	24.7	26.8	30.9	29.1	27.3	24.8	21.7	19.8	19.1	17.7	16.8	16.2
Use it more often than I do now	6.0	7.1	7.4	6.3	6.0	4.2	4.7	3.8	4.9	4.7	3.7	5.0	4.1
Use it less than I do now	1.3	1.5	1.5	2.7	2.5	2.6	2.5	2.2	1.5	1.6	1.6	2.0	1.3
Don't know	8.5	8.1	6.6	6.7	6.1	5.9	6.9	6.0	6.4	6.0	6.5	6.1	6.3
Approx. N =	(2600)	(2970)	(3110)	(3710)	(3280)	(3210)	(3600)	(3620)	(3300)	(3220)	(3230)	(3080)	(3330)

- Also reflecting this increased conservatism about marijuana, somewhat fewer now would support legalized ***sale*** even if ***use*** were to be made legal (down from 65% in 1979 to 50% in 1987).

- The predictions about personal marijuana use, if sale and use were legalized, have been quite similar for all high school classes. The slight shifts being observed are mostly attributable to the changing proportions of seniors who actually use marijuana.

- In sum, in recent years American young people have become considerably more supportive of legal prohibitions on the use of illegal drugs, whether used in private or in public. The fairly tolerant attitudes of students in the late 70's toward marijuana use have eroded considerably as substantially more think it should be treated as a criminal offense and correspondingly fewer think it should be entirely legal to use.

Chapter 9

THE SOCIAL MILIEU FOR SENIORS

The preceding section dealt with seniors' own attitudes about various forms of drug use. Attitudes about drugs, as well as drug-related behaviors, obviously do not occur in a social vacuum. Drugs are discussed in the media; they are a topic of considerable interest and conversation among young people; they are also a matter of much concern to parents, concern which often is strongly communicated to their children. Young people are known to be affected by the actual drug-taking behaviors of their friends and acquaintances, as well as by the availability of the various drugs. This section presents data on several of these relevant aspects of the social milieu.

We begin with two sets of questions about parental and peer attitudes, questions which closely parallel the questions about respondents' own attitudes about drug use, discussed in the preceding section. Since measures of parental attitudes have not been carried in the study in recent years, those discussed here are based on the 1979 results.

PERCEIVED ATTITUDES OF PARENTS AND FRIENDS

Perceptions of Parental Attitudes

- A large majority of seniors in 1979 felt that their parents would disapprove or strongly disapprove of their exhibiting ***any of the drug use behaviors*** which are listed in Table 20. (The data for the perceived parental attitudes are not given in tabular form, but are displayed in Figures 24a and b and 25.)

- Drug use appears to constitute one area in which the position of parents approaches complete unanimity. Over 97% of seniors said that their parents would disapprove or strongly disapprove of their smoking ***marijuana*** regularly, even trying ***LSD*** or ***amphetamines***, or having four or five ***drinks*** every day. (Although the questions did not include more frequent use of LSD or amphetamines, or any use of heroin, it is obvious that if such behaviors had been included in the list virtually all seniors would have indicated parental disapproval.)

- Even experimental use of ***marijuana*** was seen as a parentally disapproved activity by the great majority of the seniors (85%). Assuming that the students were generally correct about their parents' attitudes, these results clearly show a substantial generational difference of opinion about this drug.

TABLE 20

Trends in Proportion of Friends Disapproving of Drug Use

All Seniors

Q. How do you think your close friends feel (or would feel) about you . . .	Adjustment Factor	Percentage saying friends disapprove[a] Class of 1975[b]	Class of 1976	Class of 1977[b]	Class of 1978	Class of 1979[b]	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Trying marijuana once or twice	*(−0.5)*	*44.3*	NA	*41.8*	NA	*40.9*	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	+1.3
Smoking marijuana occasionally	*(+0.8)*	*54.8*	NA	*49.0*	NA	*48.2*	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	+2.6
Smoking marijuana regularly	*(+4.6)*	*75.0*	NA	*69.1*	NA	*70.2*	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	+0.6
Trying LSD once or twice	*(+2.0)*	*85.6*	NA	*86.6*	NA	*87.6*	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	−1.1
Trying cocaine once or twice		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	79.6	83.9	+4.3ss
Taking cocaine occasionally		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	87.3	89.7	+2.4s
Trying an amphetamine once or twice	*(+2.2)*	*78.8*	NA	*80.3*	NA	*81.0*	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	+0.6
Taking one or two drinks nearly every day	*(+7.8)*	*67.2*	NA	*71.0*	NA	*71.0*	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	−4.1ss
Taking four or five drinks every day	*(+9.3)*	*89.2*	NA	*88.1*	NA	*88.5*	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	−1.8
Having five or more drinks once or twice every weekend	*(+4.7)*	*55.0*	NA	*53.4*	NA	*51.3*	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	−2.5
Smoking one or more packs of cigarettes per day	*(+8.3)*	*63.6*	NA	*68.3*	NA	*73.4*	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	−2.0
Approx. N =		(2488)	(NA)	(2615)	(NA)	(2716)	(2766)	(3120)	(3024)	(2722)	(2721)	(2688)	(2639)	(2815)	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[b] These figures have been adjusted by the factors reported in the first column to correct for a lack of comparability of question-context among administrations. (See text for discussion.)

- Also likely to be perceived as rating high parental disapproval (around 92% disapproval) were ***occasional marijuana*** use, taking one or two ***drinks*** nearly every day, and pack-a-day ***cigarette*** smoking.

- Slightly lower proportions of seniors (85%) felt their parents would disapprove of their having five or more ***drinks*** once or twice every weekend. This happened to be exactly the same percentage as said that their parents would disapprove of simply experimenting with marijuana.

- There is no reason to think that parental attitudes have softened in the period since 1979. If anything the opposite seems likely to be the case, given the rising public concern about marijuana and cocaine and the parents' movement against drugs.

Current Perceptions of Friends' Attitudes

- A parallel set of questions asked respondents to estimate their friends' attitudes about drug use (Table 20). These questions ask, "How do you think your close friends feel (or would feel) about you . . .?" The highest levels of disapproval for experimenting with a drug are associated with trying ***LSD*** (88%) and trying ***cocaine*** (84%). Presumably, if ***heroin*** were on the list it would receive the highest peer disapproval.

- Even experimenting with ***marijuana*** is now "out" with most seniors' friends (58%); and a substantial majority think their friends would disapprove if they smoked marijuana regularly (83%).

- About three-quarters of all seniors think they would face peer disapproval if they smoked a pack or more of ***cigarettes daily*** (74%).

- While ***heavy drinking on weekends*** is judged by only half (52%) to be disapproved by their friends (many of whom exhibit that behavior themselves), substantially more (72%) think ***consumption of one or two drinks daily*** would be disapproved. The great majority (86%) would face the disapproval of their friends if they engaged in ***heavy daily drinking***.

- In sum, peer norms differ considerably for the various drugs and for varying degrees of involvement with those drugs, but overall they tend to be quite conservative. The great majority of seniors have friendship circles which do not condone use of the ***illicit drugs other than marijuana***, and over four-fifths feel that their friends would disapprove of ***regular marijuana*** use. In fact, well over half of them now believe their friends would disapprove of their even trying marijuana.

A Comparison of the Attitudes of Parents, Peers, and Respondents

- A comparison of the perceptions of friends' disapproval with perceptions of parents' disapproval in the years for which comparison is possible shows several interesting findings.

- First there was rather little variability among different students in their perceptions of their parents' attitudes: on any of the drug behaviors listed nearly ***all*** said their parents would disapprove. Nor was there much variability among the different drugs in perceived parental attitudes. Peer norms varied much more from drug to drug. The net effect of these facts is likely to be that peer norms have a much greater chance of explaining variability in the respondent's own individual attitudes or use than parental norms, simply because the peer norms vary more. That is quite different than saying that parental attitudes do not matter, or even that they matter less than peer attitudes.

- Despite there being less variability in parental attitudes, the ***ordering*** of drug use behaviors was much the same for them as for peers (e.g., among the illicit drugs asked about, the highest frequencies of perceived disapproval were for trying LSD, while the lowest frequencies were for trying marijuana).

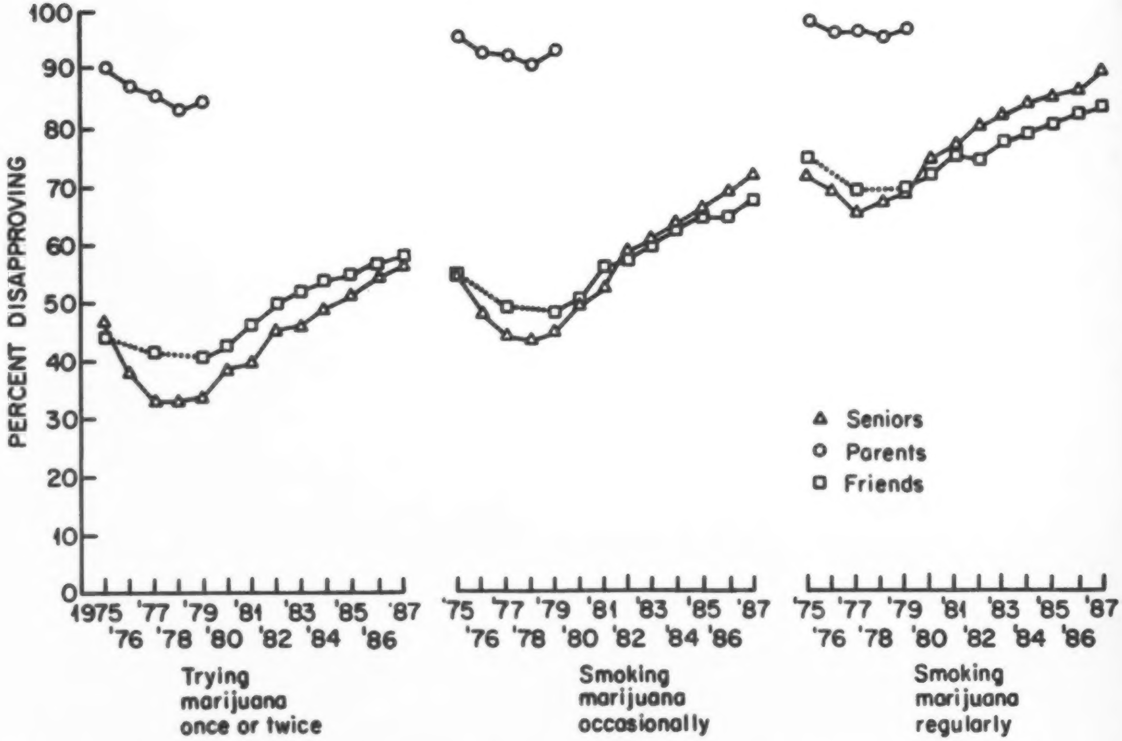
- A comparison with the seniors' own attitudes regarding drug use (see Figures 24a and b and 25) reveals that on the average they are much more in accord with their peers than with their parents. The differences between seniors' own disapproval ratings and those attributed to their parents tend to be large, with parents seen as more conservative overall in relation to ***every drug***, licit or illicit. The largest difference occurred in the case of ***marijuana*** experimentation, where only 34% of seniors (in 1979) said they disapproved vs. 85% (of 1979 seniors) who said their parents would disapprove. Despite the great increase in seniors' own disapproval (up to 57% in 1987), it is doubtless still the most controversial of the drug-using behaviors listed here.

Trends in Perceptions of Parents' and Friends' Attitudes

- Several important changes in the perceived attitudes of others have been taking place recently—and particularly among peers. These shifts are presented graphically in Figures 24a and b and 25. As can be seen in those figures, adjusted (dotted) trend lines have been introduced before 1980. This was done because we discovered that the deletion in 1980 of the questions about parents' attitudes—which up until then had been located immediately ahead of the questions about friends' attitudes—removed what was judged to be an artifactual depression of the ratings of friends' attitudes, a phenomenon known as a question-context effect. This effect was particularly evident in the trend lines dealing with alcohol use, where otherwise smooth lines showed abrupt upward shifts in

FIGURE 24a

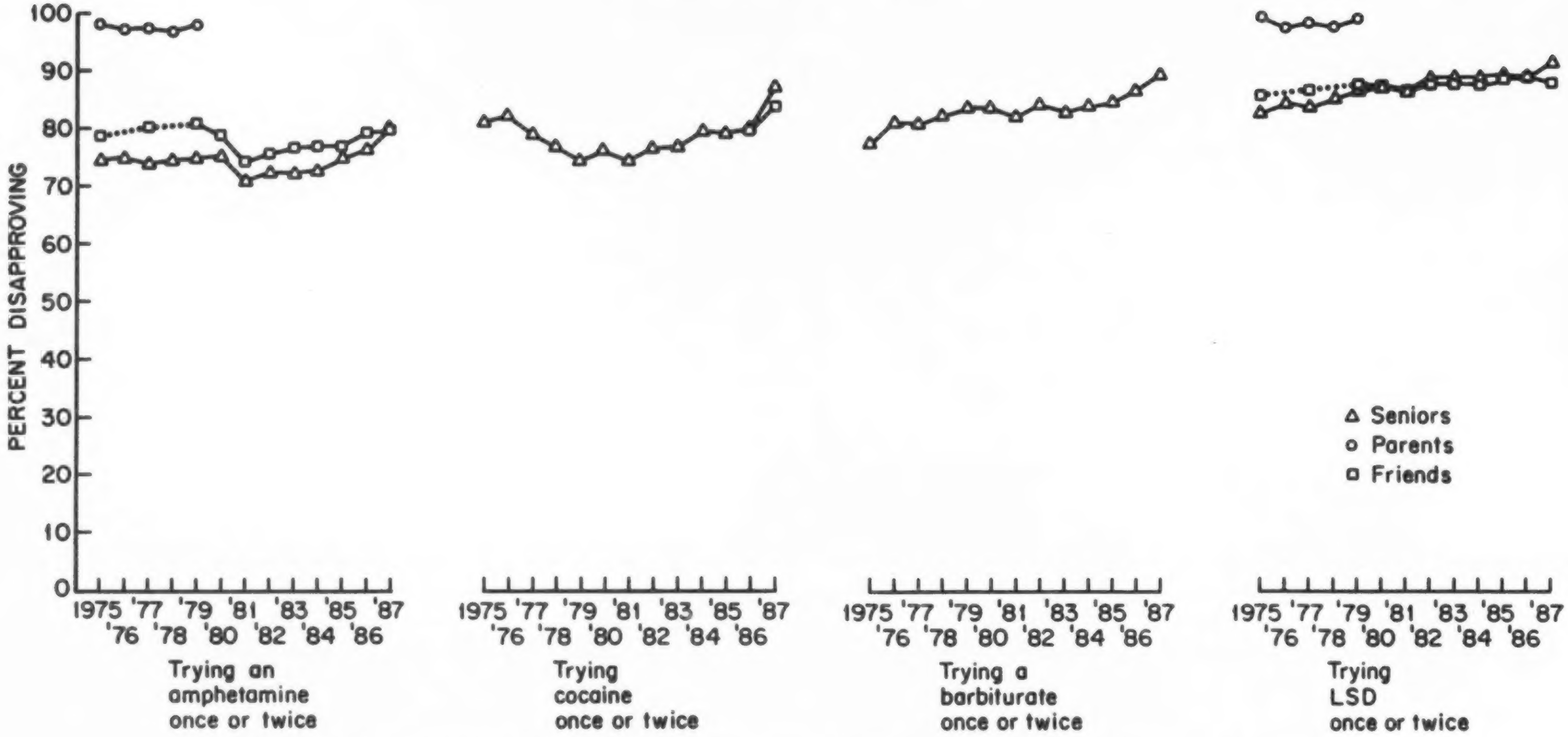
Trends in Disapproval of Illicit Drug Use
Seniors, Parents, and Peers



NOTE: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

FIGURE 24b

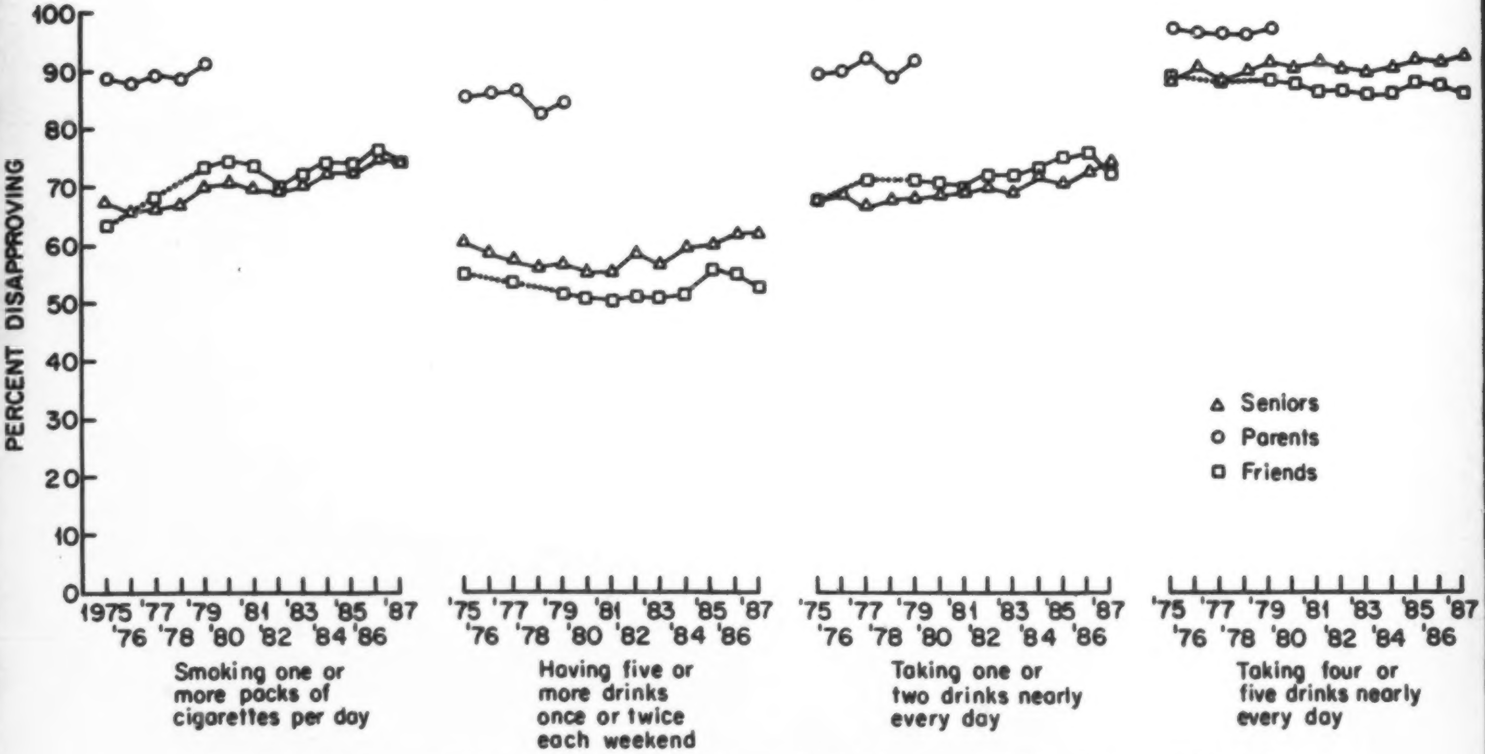
Trends in Disapproval of Illicit Drug Use
Seniors, Parents, and Peers



NOTE: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

FIGURE 25

Trends in Disapproval of Licit Drug Use
Seniors, Parents, and Peers



NOTE: Points connected by dotted lines have been adjusted because of lack of comparability of question-context among administrations. (See text for discussion.)

1980. It appears that when questions about parents' attitudes were present, respondents tended to understate peer disapproval in order to emphasize the difference in attitudes between their parents and their peers. In the adjusted lines, we have attempted to correct for that artifactual depression in the 1975, 1977, and 1979 scores.[20] We think the adjusted trend lines give a more accurate picture of the change taking place. For some reason, the question-context effect seems to have more influence on the questions dealing with cigarettes and alcohol than on those dealing with illicit drugs.

- For each level of ***marijuana*** use—trying once or twice, occasional use, regular use—there had been a drop in perceived disapproval for both parents and friends up until 1977 or 1978. We know from our other findings that these perceptions correctly reflected actual shifts in the attitudes of their peer groups—that is, that acceptance of marijuana was in fact increasing among seniors (see Figures 24a and b). There is little reason to suppose such perceptions are less accurate in reflecting shifts in parents' attitudes. Therefore, we conclude that the social norms regarding marijuana use among adolescents had been relaxing before 1979. However, consistent with the seniors' reports about their own attitudes, there has been a sharp reversal in peer norms regarding all levels of marijuana use, and it continued in 1987.

- Until 1979 there had been relatively little change in either self-reported attitudes or perceived peer attitudes toward ***amphetamine*** use, but in 1981 both measures showed significant and parallel dips in disapproval (as use rose sharply). Since 1981 disapproval has been easing back up (as use has declined) and is now at the highest level recorded in the study.

- Peer disapproval of ***LSD*** use has been inching upward since 1975.

- While perceived attitudes of friends were not asked for ***barbiturates*** or for ***cocaine*** (until 1986), it seems likely that such perceptions moved in parallel to the seniors' own attitudes, since such parallel movement has been observed for virtually all other drugs. (See Figures 24a and b.) This would suggest that disapproval has risen gradually but steadily for ***barbiturate*** use since 1975. Regarding experimenting with ***cocaine***, seniors' own disapproval dropped from 1975 to 1979, but then rose very gradually through 1986. Questions on perceived attitudes of friends for experimental and occasional use of cocaine were added in 1986. These new statistics parallel the seniors' attitudes, which means that both rose significantly in 1987.

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[20] The correction evolved as follows: We assumed that a more accurate estimate of the true change between 1979 and 1980 could be obtained by taking an average of the changes observed in the year prior and the year subsequent, rather than by taking the observed change (which we knew to contain the effect of a change in question context). We thus calculated an ***adjusted*** 1979–1980 change score by taking an average of one-half the 1977–1979 change score (our best estimate of the 1978–1979 change) plus the 1980–1981 change score. This estimated change score was then subtracted from the observed change score for 1979–1980, the difference being our estimate of the amount by which peer disapproval of the behavior in question was being understated because of the context in which the questions occurred prior to 1980. The 1975, 1977, and 1979 observations were then adjusted upward by the amount of that correction factor. (Table 20 shows the correction factors in the first column.)

- One of the larger changes in perceived peer norms occurred in relation to ***regular cigarette smoking***. The proportion of seniors saying that their friends would disapprove of them smoking a pack-a-day or more rose from 64% (adjusted version) in 1975 to 74% in 1980. Beyond 1980, however, perceived peer disapproval has fluctuated by only a few percentage points, and it remains at 74% in 1987.

- For ***alcohol*** until 1986, perceived peer norms moved pretty much in parallel with seniors' statements about their personal disapproval. In 1986 and 1987 some divergence appears to have occurred, with more tolerant norms being perceived at the same time that seniors' reports of their own attitudes have become less tolerant.

  Heavy daily drinking is seen by the great majority (86% in 1987) as disapproved by peers, with little systematic change over more than a decade. ***Weekend binge drinking*** also showed little systematic change.

EXPOSURE TO DRUG USE BY FRIENDS AND OTHERS

It is generally acknowledged that much of youthful drug use is initiated through a peer social-learning process; and research has shown a high correlation between an individual's illicit drug use and that of his or her friends. Such a correlation can, and probably does, reflect several different causal patterns: (a) a person with friends who use a drug will be more likely to try the drug; (b) conversely, the individual who is already using a drug will be likely to introduce friends to the experience; and (c) one who is already a user is more likely to establish friendships with others who also are users.

Given the potential importance of exposure to drug use by others, we felt it would be useful to monitor seniors' association with others taking drugs, as well as seniors' perceptions about the extent to which their friends use drugs. Two sets of questions, each covering all or nearly all of the categories of drug use treated in this report, asked seniors to indicate (a) how often during the past twelve months they were around people taking each of the drugs to get high or for "kicks," and (b) what proportion of their own friends use each of the drugs. (The questions dealing with friends' use are shown in Table 21. The data dealing with direct exposure to use may be found in Table 22.) Obviously, responses to these two questions are highly correlated with the respondents' own drug use; thus, for example, seniors who have recently used marijuana are much more likely to report that they have been around others getting high on marijuana, and that most of their friends use it.

Exposure to Drug Use by Seniors in 1987

- A comparison of responses about friends' use, and about being around people in the last twelve months who were using various drugs to get high, reveals a high degree of correspondence between these two indicators of exposure. For each drug, the proportion of respondents saying "none" of their friends use it is fairly close to the proportion who say that during the last twelve months they have not been around anyone who was using that drug to get high. Similarly, the proportion saying they are "often" around people getting high on a given drug is roughly the same as the proportion reporting that "most" or "all" of their friends use that drug.

- As would be expected, reports of exposure and friends' use closely parallel the figures on seniors' own use (compare Figures 2 and 26). It thus comes as no surprise that the highest levels of exposure involve ***alcohol***; a majority (59%) say they are "often" around people using it to get high. What *may* come as a surprise is that fully 31% of all seniors say that most or all of their friends go so far as to ***get drunk*** at least once a week. (This *is* consistent, however, with the fact that 38% said they personally had taken five or more drinks in a row at least once during the prior two weeks.)

- The drug to which students are next most frequently exposed is ***marijuana***. Only 30% report no exposure during the year. Some 21% are "often" around people using it to get high, and another 24% are exposed "occasionally." Only about one in six (16%) now say that most or all of their friends smoke marijuana.

- After marijuana comes ***cocaine***, with 35% of seniors reporting some exposure to use in the prior year, and 44% saying they have friends who use.

- ***Amphetamines***, the third most widely used class of illicit drugs, are also the one drug to which seniors are next most often exposed. Some 32% of all seniors have been around someone using them to get high over the past year, and 5% say they are "often" around people doing this.

- For the ***remaining illicit drugs*** there are far lower rates, with ***any*** exposure to use in the past year ranging from 18% for tranquilizers down to 6% for heroin.

- Nearly half of all seniors (48%) report ***no*** exposure to ***illicit drugs other than marijuana*** during the prior year.

- Regarding ***cigarette smoking***, just over one in every five seniors (21%) reports that most or all of his or her friends smoke, although 88% have at least some friends who smoke.

FIGURE 26

Proportion of Friends Using Each Drug as Estimated by Seniors, in 1987

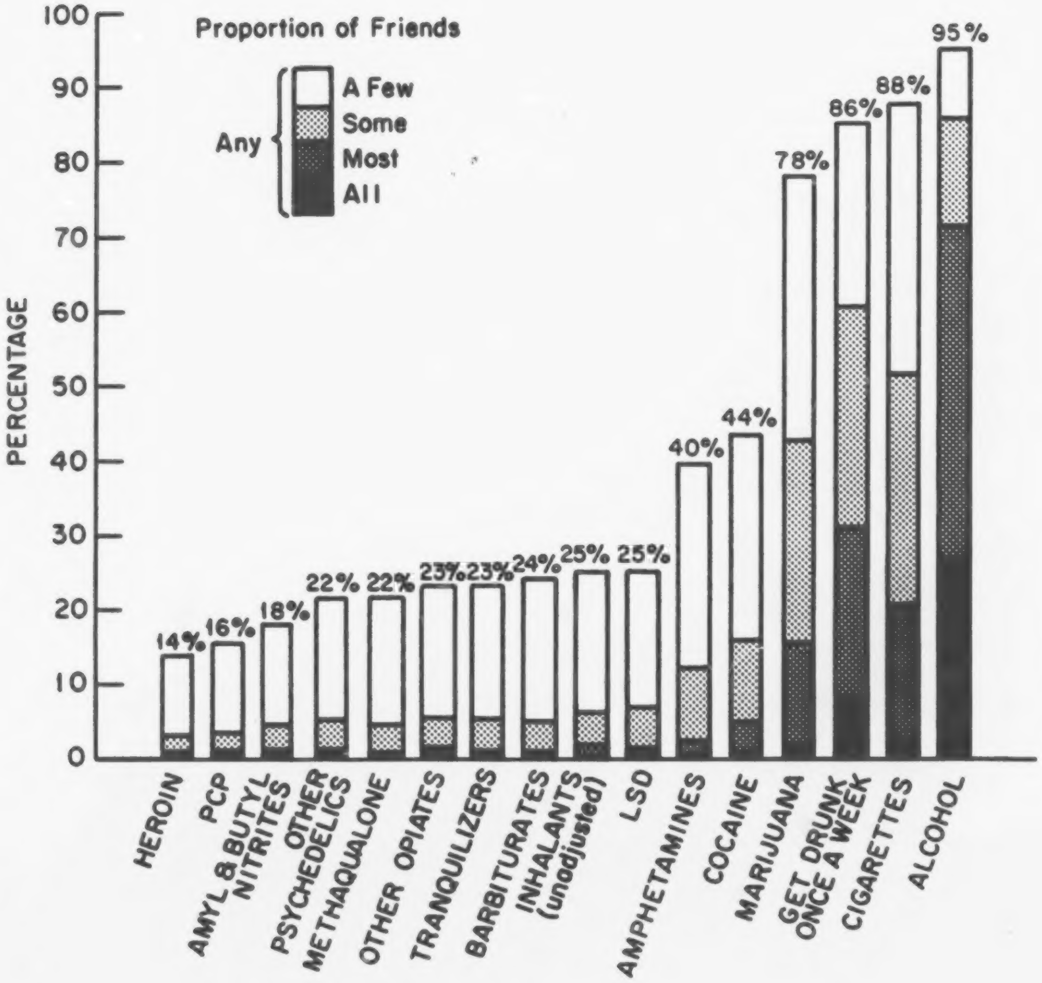

TABLE 21

Trends in Proportion of Friends Using Drugs as Estimated by Seniors

(Entries are percentages)

Q. How many of your friends would you estimate . . .	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 198[illegible]	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Smoke marijuana														
% saying none	17.0	17.1	14.1	13.9	12.4	13.6	17.0	15.6	19.7	22.3	20.5	20.8	21.6	+0.8
% saying most or all	30.3	30.6	32.3	35.3	35.5	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	−2.4s
Use inhalants														
% saying none	75.7	81.4	81.1	80.0	80.9	82.2	83.5	81.6	83.9	80.7	78.8	77.6	75.3	−2.3
% saying most or all	1.1	1.1	1.0	1.1	1.1	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	−0.1
Use nitrites														
% saying none	NA	NA	NA	NA	78.4	81.0	82.6	82.5	85.5	85.0	84.4	82.0	81.7	−0.3
% saying most or all	NA	NA	NA	NA	1.9	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	+0.1
Take LSD														
% saying none	63.5	69.4	68.1	70.1	71.1	71.9	71.5	72.2	76.0	76.1	75.6	75.5	74.7	−0.8
% saying most or all	2.7	2.8	3.0	2.0	1.9	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	−0.2
Take other psychedelics														
% saying none	58.8	69.7	68.6	70.8	71.8	71.8	73.7	74.4	77.9	78.7	78.0	77.7	78.3	+0.6
% saying most or all	4.7	3.0	2.8	2.0	2.2	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	−0.1
Take PCP														
% saying none	NA	NA	NA	NA	72.2	77.8	82.8	82.7	85.8	85.8	84.1	83.9	84.5	+0.6
% saying most or all	NA	NA	NA	NA	1.7	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	−0.1
Take cocaine														
% saying none	66.4	71.2	69.9	66.8	61.1	58.4	59.9	59.3	62.4	61.1	56.2	54.4	56.3	+1.9
% saying most or all	3.4	3.2	3.6	4.0	6.0	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	−1.1
Take "crack"														
% saying none	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	72.6	NA
% saying most or all	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2	NA
Take heroin														
% saying none	84.8	86.4	87.1	85.7	87.1	87.0	87.5	86.8	88.0	87.0	85.5	84.7	86.1	+1.4
% saying most or all	0.7	0.8	0.7	0.9	0.5	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	−0.2
Take other narcotics														
% saying none	71.2	75.9	76.3	76.8	76.9	77.6	76.9	76.1	79.2	78.6	77.2	78.2	76.8	−1.4
% saying most or all	2.1	2.2	1.7	1.4	1.5	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	−0.4

(Table continued on next page)

TABLE 21 (cont.)

Trends in Proportion of Friends Using Drugs as Estimated by Seniors

(Entries are percentages)

Q. How many of your friends would you estimate . . .	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Take amphetamines														
% saying none	49.0	57.8	58.7	59.3	59.3	56.1	51.2	49.4	53.9	54.9	56.7	58.2	60.5	+2.3
% saying most or all	5.9	5.6	4.1	4.7	4.3	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	−0.8
Take barbiturates														
% saying none	55.0	63.7	65.3	67.5	69.3	69.5	68.9	68.7	71.7	73.4	72.9	74.4	75.7	+1.3
% saying most or all	4.3	3.5	3.0	2.3	2.1	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	−0.3
Take quaaludes														
% saying none	68.3	73.0	71.7	73.0	72.3	67.5	65.0	64.5	70.3	73.9	74.0	76.5	78.0	+1.5
% saying most or all	3.0	1.8	2.9	2.2	2.8	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	−0.6
Take tranquilizers														
% saying none	54.4	63.7	62.2	65.2	68.0	70.3	70.5	70.1	73.3	73.4	74.2	75.8	76.7	+0.9
% saying most or all	3.5	3.1	2.7	1.8	2.0	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	−0.3
Drink alcoholic beverages														
% saying none	3.3	4.9	5.6	5.1	4.6	3.9	5.3	4.3	4.5	5.4	5.4	4.4	4.6	+0.2
% saying most or all	68.4	64.7	66.2	68.9	68.5	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	+3.8s
Get drunk at least once a week														
% saying none	17.6	19.3	19.0	18.0	16.7	16.9	18.2	16.9	16.1	18.5	17.5	15.3	14.4	−0.9
% saying most or all	30.1	26.6	27.6	30.2	32.0	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	−0.5
Smoke cigarettes														
% saying none	4.8	6.3	6.3	6.9	7.9	9.4	11.5	11.7	13.0	14.0	13.0	12.2	11.7	−0.5
% saying most or all	41.5	36.7	33.9	32.2	28.6	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	−0.5
Take any illicit drug[a]														
% saying none	14.2	15.4	13.1	12.5	11.0	12.5	14.6	13.7	17.4	19.0	17.6	17.8	18.3	+0.5
% saying most or all	31.9	31.7	33.2	36.3	37.0	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	−2.9s
Take any illicit drug[a] other than marijuana														
% saying none	33.3	44.5	42.5	43.6	38.7	37.6	36.7	35.3	38.8	38.7	38.2	36.7	37.6	+0.9
% saying most or all	10.6	8.9	7.7	8.5	10.4	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	−1.1
Approx. N =	(2640)	(2697)	(2788)	(3247)	(2933)	(2987)	(3307)	(3303)	(3095)	(2945)	(2971)	(2798)	(2948)	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all of the drugs listed except cigarettes and alcohol. PCP and the nitrites were not included in 1975 through 1978. "Crack" was not included in 1975 through 1986.

Trends in Exposure to Drug Use by Seniors

- During the two-year interval from 1976 to 1978, seniors' reports of exposure to ***marijuana*** use increased in just about the same proportion as percentages of actual monthly use. In 1979 both exposure to use and actual use stabilized, and since 1979 both have been dropping. The proportion saying they are often around people using marijuana decreased from 39% in 1979 to 21% in 1987—a drop of nearly one-half in the past seven years.

- ***Cocaine*** showed a consistent increase from 1976 to 1979 in the proportion of seniors exposed to users. From 1979 to 1984 there was little change in exposure to use coinciding with a period of stability in self-reported use; but in 1985 and 1986 there was an increase in the proportion saying they were often around people using cocaine (7.8% in 1986). In 1987 this proportion decreased significantly to 5.9%, as actual use dropped.

- The gradual rise in recent years in self-reported ***inhalant*** use appears to be confirmed by the data on exposure to its use. The proportion saying they have any friends who use has increased from 16% in 1983 to 25% in 1987. Less than half of that increase appears to be due to an increase in ***nitrite*** use.

- From 1979 to 1983 there had been a statistically significant decrease in exposure to others (including close friends) using ***psychedelics other than LSD*** (including ***PCP***), which coincided with a continued decline in the self-reported use of this class of drugs. There has been little or no further change since 1983 in exposure to use.

- Exposure to ***tranquilizer*** use has declined gradually since 1976, as has actual use.

- There also had been a gradual decrease in exposure to ***barbiturates*** and ***LSD***, from 1975 through 1980. Then exposure to the use of both of these drugs remained level for two years, as did the usage figures. Barbiturates have since shown a continuing decline in both use and exposure to use; whereas exposure to LSD reached a low point in 1983, and has been stable since then.

- Trend data are available only since 1979 on friends' use of ***PCP*** or the ***nitrites***. For both drugs, exposure to friends' use had dropped significantly between 1979 and 1983. Only half as many seniors in 1983 (14%) said any of their friends used PCP compared with seniors in 1979 (28%). The corresponding drop for nitrites was from 22% to 14%. Since 1983, however, there has been rather little systematic change for PCP and perhaps a slight decrease in exposure to the nitrites.

TABLE 22
Trends in Seniors' Exposure to Drug Use
(Entries are percentages)

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Marijuana														
% saying not at all	NA	20.5	19.0	17.3	17.0	18.0	19.8	22.1	23.8	25.6	26.5	28.0	29.6	+1.6
% saying often	NA	32.5	37.0	39.0	38.9	33.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	−3.4ss
LSD														
% saying not at all	NA	78.8	80.0	81.9	81.9	82.8	82.6	83.9	86.2	87.5	86.8	86.9	87.1	+0.2
% saying often	NA	2.2	2.0	1.8	2.0	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	+0.2
Other psychedelics														
% saying not at all	NA	76.5	76.7	76.7	77.6	79.6	82.4	83.2	86.9	87.3	87.5	88.2	90.0	+1.8
% saying often	NA	3.1	3.2	2.9	2.2	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	−0.3
Cocaine														
% saying not at all	NA	77.0	73.4	69.8	64.0	62.3	63.7	65.1	66.7	64.4	61.7	62.6	65.1	+2.5
% saying often	NA	3.0	3.7	4.6	6.8	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	−1.9s
Heroin														
% saying not at all	NA	91.4	90.3	91.8	92.4	92.6	93.4	92.9	94.9	94.0	94.5	94.0	94.2	+0.2
% saying often	NA	0.8	1.1	0.9	0.7	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	−0.1
Other narcotics														
% saying not at all	NA	81.9	81.3	81.8	82.0	80.4	82.5	81.5	82.7	82.0	81.6	84.4	85.6	+1.2
% saying often	NA	1.8	2.4	2.0	1.7	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	−0.4
Amphetamines														
% saying not at all	NA	59.6	60.3	60.9	58.1	59.2	50.5	49.8	53.9	55.0	59.0	63.5	68.3	+4.8ss
% saying often	NA	6.8	7.9	6.7	7.4	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	−1.3
Barbiturates														
% saying not at all	NA	69.0	70.0	73.5	73.6	74.8	74.1	74.3	77.5	78.8	81.1	84.2	86.9	+2.7s
% saying often	NA	4.5	5.0	3.4	3.3	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	−0.6
Tranquilizers														
% saying not at all	NA	67.7	66.0	67.5	67.5	70.9	71.0	73.4	76.5	76.9	76.6	80.4	81.6	+1.2
% saying often	NA	5.5	6.3	4.9	4.3	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	+0.1
Alcoholic beverages														
% saying not at all	NA	6.0	5.6	5.5	5.2	5.3	6.0	6.0	6.0	6.0	6.0	5.9	6.1	+0.2
% saying often	NA	57.1	60.8	60.8	61.2	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	+0.7
Any illicit drug[a]														
% saying not at all	NA	17.4	16.5	15.1	15.0	15.7	17.3	18.6	20.6	22.1	22.3	24.5	26.1	+1.6
% saying often	NA	34.8	39.0	40.7	40.4	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	−3.0s
Any illicit drug[a] other than marijuana														
% saying not at all	NA	44.9	44.2	44.7	41.7	41.5	37.4	37.5	40.6	40.2	40.7	44.7	48.3	+3.6s
% saying often	NA	11.8	13.5	12.1	13.7	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	−1.9
Approx. N =	(NA)	(2950)	(3075)	(3682)	(3253)	(3259)	(3608)	(3645)	(3334)	(3238)	(3252)	(3078)	(3296)	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

- The proportion having any friends who used ***amphetamines*** rose from 41% to 51% between 1979 and 1982—paralleling the sharp increase in reported use over that period. The proportion saying they were around people using amphetamines "to get high or for kicks" also jumped substantially between 1980 and 1982 (by 9% to 50%).[21] It then fell continually by a full 19% between 1982 and 1987 (including a 5% drop in 1987 alone) as self-reported use has been declining.

- Between 1978 and 1981 ***methaqualone*** use rose, as did the proportion of seniors saying some of their friends used. A decline in both use and exposure started in 1982, and by 1987 there were 13% fewer seniors saying they had any friends who use quaaludes (down from 35% to 22% between 1981 and 1987).

- The proportion saying that "most or all" of their friends smoke ***cigarettes*** dropped steadily and substantially between 1976 and 1981, from 37% to 22%. (During this period actual use dropped markedly, and more seniors perceived their friends as disapproving regular smoking.) After 1981, friends' use (as well as self-reported use) remained relatively stable, and in 1987 is only 1% lower than in 1981. In 1977, the peak year for actual use, 34% said most or all of their friends smoked; in 1981, 22.4%, and in 1987, 21.0%.

- The proportion saying most or all of their friends ***get drunk*** at least once a week had been increasing steadily, between 1976 and 1979, from 27% to 32%—during a period in which the prevalence of occasional heavy drinking was rising by about the same amount. After that, there was little change in either measure for about five years. In 1984 and 1985, self-reports of heavy drinking declined some before stabilizing at a lower level; but friends' heavy drinking did not show such a decline, and has remained fairly steady. But without question, what remains the most impressive fact here is that nearly a third of all high school seniors (31% in 1987) say that most or all of their friends get drunk at least once a week. And only about one in seven (14%) say that none of their friends get drunk that often.

IMPLICATIONS FOR VALIDITY OF SELF-REPORTED USAGE QUESTIONS

- We have noted a high degree of correspondence in the aggregate level data presented in this report among seniors' self-reports of their ***own*** drug use, their reports concerning ***friends'*** use, and their own ***exposure*** to use. Drug-to-drug comparisons in any given year across these three types of measures tend to be highly parallel, as are the changes from year to year.[22] We take this consistency as additional evidence for the validity of the self-report data, and of trends in the self-report data, since there should be less reason to distort answers on friends' use, or general exposure to use, than to distort the reporting of one's own use.

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[21] This finding was important, since it indicated that a substantial part of the increase observed in self-reported amphetamine use was due to things other than simply an increase in the use of over-the-counter diet pills or stay-awake pills, which presumably are not used to get high. Obviously, more young people were using stimulants for recreational purposes. There still remained the question, of course, of whether the active ingredients in those stimulants really were amphetamines.

PERCEIVED AVAILABILITY OF DRUGS

One set of questions asks for estimates of how difficult it would be to obtain each of a number of different drugs. The answers range across five categories from "probably impossible" to "very easy." While no systematic effort has been undertaken to assess directly the validity of these measures, it must be said that they do have a rather high level of face validity—particularly if it is the subjective reality of "perceived availability" which is purported to be measured. It also seems quite reasonable to us to assume that perceived availability tracks actual availability to some extent.

Perceived Availability for Seniors in 1987

- There are substantial differences in the reported availability of the various drugs. In general, the more widely used drugs are reported to be available by the highest proportion of the age group, as would be expected (see Table 23 and Figures 27a and b).

- ***Marijuana*** appears to be almost universally available to high school seniors; some 85% report that they think it would be "very easy" or "fairly easy" for them to get—35% more than the number who report ever having used it.

- After marijuana, the students indicate that the psychotherapeutic drugs are among the most available to them: ***amphetamines*** are seen as available by 65%, ***tranquilizers*** by 49%, and ***barbiturates*** by 48%.

- More than half of the seniors (54%) now see ***cocaine*** as readily available to them.

- ***LSD***, ***other psychedelics***, and ***opiates other than heroin*** are reported as available by only about one of every three or four seniors (31%, 25%, and 33%, respectively).

- ***Heroin*** is seen by the fewest seniors (24%) as being easy to get.

- The great majority (two-thirds or more) of recent users of ***all drugs***—that is, of those who have illicitly used the drug in the past

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[22] Those minor instances of noncorrespondence may well result from the larger sampling errors in our estimates of these environmental variables, which are measured on a sample size one-fifth the size of the self-reported usage measures.

FIGURE 27a

Trends in Perceived Availability of Drugs
All Seniors

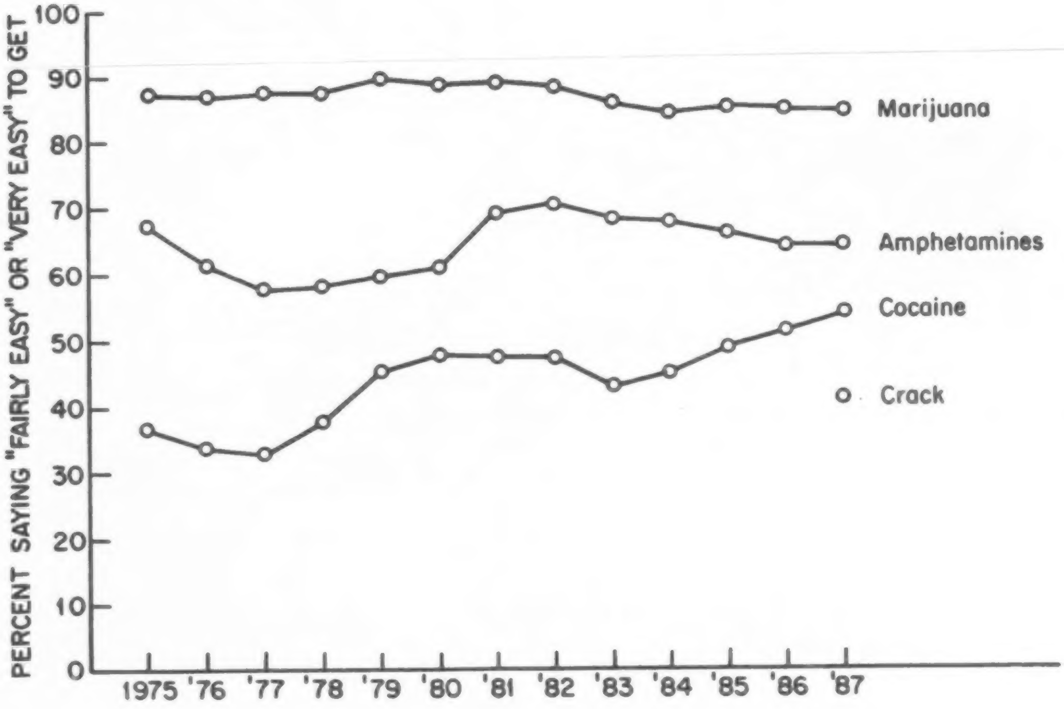

FIGURE 27b

Trends in Perceived Availability of Drugs

All Seniors

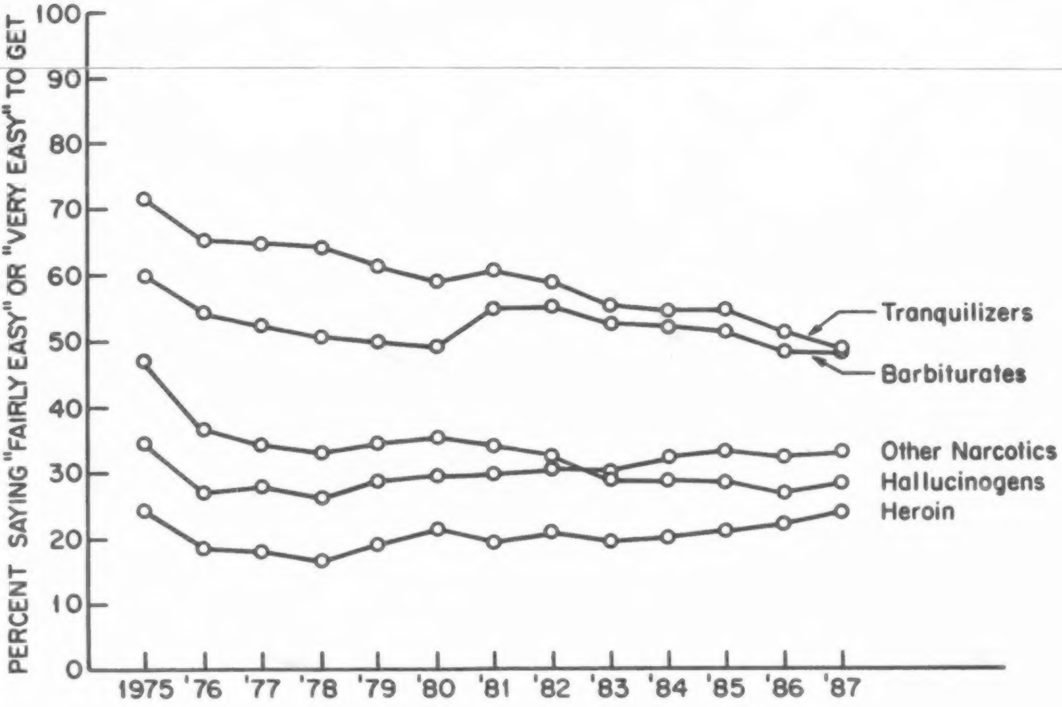

TABLE 23

Trends in Perceived Availability of Drugs, All Seniors

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying drug would be "Fairly easy" or "Very easy" for them to get[a]													
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Marijuana	87.8	87.4	87.9	87.8	90.1	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	−0.4
Amyl & Butyl Nitrites	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.9	NA
LSD	46.2	37.4	34.5	32.2	34.2	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	+2.9s
PCP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.8	NA
Some other psychedelic	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	+0.1
Cocaine	37.0	34.0	33.0	37.8	45.5	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	+2.7
"Crack"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.1	NA
Heroin	24.2	18.4	17.9	16.4	18.9	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	+1.7
Some other narcotic (including methadone)	34.5	26.9	27.8	26.1	28.7	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	+0.8
Amphetamines	67.8	61.8	58.1	58.5	59.9	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	+0.2
Barbiturates	60.0	54.4	52.4	50.6	49.8	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	−0.1
Tranquilizers	71.8	65.5	64.9	64.3	61.4	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	−2.6
Approx. N =	(2627)	(2865)	(3065)	(3598)	(3172)	(3240)	(3578)	(3602)	(3385)	(3269)	(3274)	(3077)	(3271)	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. NA indicates data not available.

[a] Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

year—feel that it would be easy for them to get that same type of drug. (Data not displayed here.)

Trends in Perceived Availability for Seniors

- ***Marijuana***, for the first time since the study was begun in 1975, showed a small but statistically significant decline in perceived availability (down 3.9%) between 1982 and 1984, undoubtedly due to the reduced proportion of seniors who have friends who use. There has been little further change since then, and 85% of the class of 1987 think marijuana would be easy to get.

- ***Amphetamines*** showed a full 11% jump in availability between 1979 and 1982; but availability has dropped back by 6% in the five years since.

- The perceived availability of ***barbiturates*** also jumped about 6% between 1980 and 1982, but dropped back by 7% in the subsequent five years.

- Between 1977 and 1980 there was a substantial (15%) increase in the perceived availability of ***cocaine*** (see Figures 27a and b and Table 23). Among recent cocaine users there also was a substantial increase observed over that three-year interval (data not shown). Availability then leveled, and dropped some in 1983 and 1984, before rising significantly (by 4%) in 1985. Perceived availability rose another 2.6% in 1986, though actual use of cocaine remained the same or declined slightly. In 1987 perceived availability again rose 2.7%, whereas use of cocaine decreased significantly. The fact that there was no drop in availability in 1987 is important in eliminating it as a possible explanation for the significant decline in use observed in that year.

- The availability of ***tranquilizers*** has been declining steadily since 1978.

- The perceived availability of ***LSD*** and ***other psychedelics*** dropped sharply between 1975 and 1978. LSD availability decreased some between 1978 and 1986 (by 4%), but in 1987 it increased significantly (by 3%). Since 1978 the availability of other psychedelics showed a further decline of 9% by 1987—a period during which the use of PCP dropped substantially.

- There has not been much change in the perceived availability of ***heroin*** since 1976.

- ***Other opiates*** have shown a very slight, gradual upward shift, from 27% in 1976 to 33% in 1987.

- All these trends are similar among recent users.

YOUNG ADULTS POST-HIGH SCHOOL

Chapter 10

PREVALENCE OF DRUG USE AMONG YOUNG ADULTS POST-HIGH SCHOOL

As is described in the introduction to this report, the Monitoring the Future study has followed representative samples from each graduating class beginning with the class of 1976. Two matched panels, of roughly 1200 seniors each, are selected from each graduating class—one panel being surveyed every even-numbered year after graduation, the other being surveyed every odd-numbered year. Thus, in a given year, the study encompasses one of the panels from each of the senior classes previously participating in the study. In 1987, this meant that representative samples of the classes of 1976 through 1986—or eleven previous classes in all—were surveyed by mail.

In this section we present the results of that follow-up survey: results which should accurately characterize the approximately 85% of young adults in the class cohorts one to ten years beyond high school who are high school graduates. (They have modal ages between 19 and 29.) The high school dropout segment missing from the senior year surveys is, of course, missing from all of the follow-up surveys, as well.

Figures 28 through 40 contain the 1987 ***prevalence*** data for all age groups covered, up through those who are eleven years beyond high school (modal age of 29). Later figures will give the ***trend*** data for each age group, including seniors and graduates who are up to ten years past high school (modal age of 28). Age groups have been paired into two-year intervals in both sets of figures to increase the number of cases, and thus the reliability, of each point estimate. For obvious reasons, trends on the youngest age bands can be calculated for the longest period of time. As the years pass and the earlier class cohorts get older, new age groups can be added to the figures.

A NOTE ON LIFETIME PREVALENCE ESTIMATES

In Figures 28 through 40 two different estimates of lifetime prevalence are provided—one based on the respondent's most recent statement of whether he or she ever used the drug in question (the solid line), and one based on the cumulated answers of the respondent across ***all*** previous data collections in which he or she participated (the dotted line).[23] The former type of estimate is most commonly presented in epidemiological studies, since it can be made based on the data from a single cross-sectional survey. The latter is possible only when panel data have been gathered and a respondent can be classified as having used a drug at sometime in his or her life (based on earlier answers) even though he or she no longer indicates lifetime use in the most recent survey.

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[23] To be categorized as one who has used the drug based on all past answers regarding that drug, the respondent has either (a) to have reported past use in the most recent data collection and/or (b) to have reported some use in his or her lifetime on at least two earlier occasions.

The divergence of these two lines as a function of age shows that there is more inconsistency as time passes. (Obviously there is more opportunity for inconsistency as the number of data collections increases.) Our judgment is that "the truth" lies somewhere between the two estimates, in that the lower estimate may be depressed by tendencies to forget, "forgive," or conceal earlier use; and the upper estimate may include some earlier response errors or incorrect definitions of drugs which respondents corrected in later surveys. (It should be noted that a high proportion of those giving inconsistent answers across time had earlier reported having used only once or twice in their lifetime.) As we have reported elsewhere, cross-time stability of self-reported usage measures (which also take into account the number of occasions of self-reported use) is still very high.[24]

It also should be noted that the divergence between the two lifetime prevalence estimates is greatest for the psychotherapeutic drugs, and the derivative index of "use of an illicit other than marijuana," which is heavily affected by the psychotherapeutic estimates. We believe this is due to the greater difficulty for respondents in categorizing such pills with a high degree of certainty—especially if they have used them only once or twice. One would expect higher inconsistency across time, when the event (in many of these cases a single event) is reported at quite different points in time with a relatively low degree of certainty. Those who have gone beyond simple experimentation with one of these drugs would undoubtedly be able to categorize them with a higher degree of certainty. Also, those who have experimented more recently (say in the past month or year) should have a higher probability of recall as well as more fresh information for accurately categorizing the drug.

We provide both estimates to make clear that a full use of respondent information provides a possible range for lifetime prevalence estimates, not a single point. However, by far the most important use of the prevalence data is to track ***trends*** in ***current*** (as opposed to lifetime) use; thus we are much less concerned about the nature of the variability in the lifetime estimates than we might otherwise be. The lifetime prevalence estimates are primarily of importance in showing the degree to which a drug class has penetrated the general population.

A number of interesting findings emerge from the follow-up data.[25]

PREVALENCE OF DRUG USE IN 1987 AS A FUNCTION OF AGE

- For virtually all drugs, the age comparisons available show a much higher lifetime prevalence for the older age groups. In fact, the figures reach some impressive levels among young adults in their late twenties. Among 27 to 28 year olds in 1987, for example, the *adjusted* lifetime prevalence figures reach 83% for ***any illicit drug***,

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[24] O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805–824.

[25] In this section on post-high school drug use, we note some differences that seem to be consistently associated with age. We recognize that the separation of age effects from period or cohort effects is a difficult methodological task, and have dealt extensively with that issue elsewhere (O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986. *American Journal of Public Health, 78*, 1315–1321). In this monograph we take a more descriptive approach, presenting the trend data along with those interpretations that we think are most reasonable.

62% for ***any illicit drug other than marijuana***, 78% for ***marijuana***, and 39% for ***cocaine***, specifically. The 1987 survey responses, *unadjusted* for previous answers, show somewhat lower proportions: 76% for any illicit drug, 52% for any illicit drug other than marijuana, 73% for marijuana, and 36% for cocaine.

- Despite the higher levels of *lifetime* use among older age groups, the older age groups show levels of *annual* or *current* use which are no higher than among high school seniors; in fact, in a number of cases the levels reported by older respondents are lower, suggesting that the incidence of quitting has more than offset the incidence of new use. In analyses published elsewhere, we have looked closely at patterns of change in drug use, and have identified some post-high school experiences which contribute to declining levels of annual or current use as respondents grow older. In particular, the likelihood of being married increases with age during the twenties, and we have found that marriage is consistently associated with declines in alcohol use in general, heavy drinking in particular, marijuana use, and use of other illicit drugs.[26]

  For the use of ***any illicit drug***, lifetime prevalence is 83% among 27–28 year olds vs. 57% among 1987 seniors; however, annual prevalence declines during the later twenties (see Figure 28). Current (30-day) prevalence is quite constant at about 25% across the entire age-band 19 to 29.

- A very similar pattern exists for ***marijuana***; that is, higher lifetime prevalence as a function of age, but lower annual prevalence during the later twenties, and a fairly constant 30-day prevalence across the age-band (see Figure 31). ***Daily marijuana use*** is slightly higher as a function of age (at least through age 29) perhaps reflecting residual effects of the much higher daily usage rates the older cohorts achieved when they were in high school. In fact, a special set of analyses published recently suggests that there is such a "cohort effect" in the case of daily marijuana use, albeit a very small one.[27]

- The statistics on the use of ***any illicit drug other than marijuana*** (Figure 29) behave in a somewhat different fashion, however. Like marijuana and the any-illicit-drug-use index, lifetime rates on this index also show an appreciable rise with age, reaching 62% by age 28.

  However, the ***annual*** and ***30-day*** usage statistics are fairly constant across the age groups. As the next several paragraphs illustrate, most of the drugs which constitute this category show a decline with age in annual prevalence. Thus, the one which shows an appreciable increase with age—namely, cocaine—must account for this constancy across age in this general category.

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[26] Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1984). Drug use among young adults: The impacts of role status and social environment. *Journal of Personality and Social Psychology, 47*, 629–645.

[27] O'Malley, Bachman, & Johnston, (1988), *op. cit.*.

- Several classes of drugs show lower rates of current use among the older age groups than among seniors. ***LSD*** in recent years has shown lower 30-day prevalence rates for the older ages than for seniors (Figure 32). (Annual prevalence rates also tend to be lower at present, though this has not always been true—reflecting a sharper decrease in use among the older age groups than among seniors.) We should add, however, that all of these prevalence rates are very low, and thus the differences are quite small.

- For ***stimulants***, lifetime prevalence is again much higher among the older age groups (Figure 35)—reflecting the addition of new initiates in the early twenties. However, active use as reflected in the annual prevalence figure is somewhat lower among the older age groups at present. (Again, this has not always been true; the present pattern is the result of a sharper decline in use in the older ages than has occurred among seniors. These trends are discussed in the next section.)

- For ***methaqualone***, lifetime prevalence rises appreciably with age, but there is little age-related difference in annual prevalence at present among the post-high school age groups. High school seniors show a slightly higher annual prevalence than the older age groups (Figure 37); but all ages show very low current prevalence rates, reflecting high rates of noncontinuation for this drug.

- ***Barbiturates*** are similar to stimulants and methaqualone in that lifetime prevalence again rises appreciably with age, but slightly different in that active nonmedical use after high school has always been appreciably lower than such use during high school (Figure 36).

- ***Opiates other than heroin*** show trends very similar to barbiturates—a somewhat higher lifetime prevalence as a function of age, with active nonmedical use consistently lower among the post-high school age groups (Figure 34).

- ***Cocaine*** presents a somewhat unique case in that lifetime, annual, and current use ***all*** rise substantially with age, at least through age 26 (Figure 33). In 1987, lifetime prevalence by age 27–28 was roughly 39% vs. 15% among today's high school seniors (and 10% among the 27 to 28 year old cohorts when they were seniors in the mid 1970's). Annual prevalence for 27 to 28 year olds today is about 16% and 30-day prevalence around 7%—again, appreciably higher than for the 1987 seniors. Clearly this is a drug which is used much more frequently among people in their twenties than among those in their late teens; and at present this fact distinguishes it from all of the other illicit drugs.

There is some evidence that annual and 30-day cocaine use may drop off with age beyond age 26. In 1987, the annual prevalence rates for those aged 25 to 26, 27 to 28, and 29 were 17.4%, 15.5%, and 15.5% respectively, and the corresponding 30-day prevalence rates were 7.1%, 6.7%, and 5.5%.

- The standard set of prevalence questions for ***crack*** use was introduced for the first time in 1987. They show that the follow-up respondents one to ten years out of high school on average have a slightly lower prevalence of crack use than do seniors: an annual prevalence of 3.1% (vs. 4.0% among seniors) and a 30-day prevalence of 1.0% (vs. 1.5% among seniors). However, their lifetime prevalence (6.3%) is slightly higher than among seniors (5.6%). These facts taken together suggest that they have a higher rate of noncontinuation than do seniors.

  The annual prevalence rate for the younger portion of the young adult sample (19 to 22 year olds) is a little closer to that of seniors (3.4%) than is the older portion. As with the senior data, we expect that the omission of high school dropouts is likely to have a greater than average impact on the prevalence estimates for this drug.

- In the case of ***alcohol***, lifetime prevalence varies rather little by age due to a "ceiling effect," but current use (in the past 30 days) does vary somewhat more by age, with a higher proportion of those in their mid 20's drinking actively. In the late 20's it appears that there may be some falloff with age. Current ***daily drinking*** is slightly higher in the older age groups (Figure 39).

  Occasions of heavy drinking in the two weeks prior to the survey shows a more complex pattern (Figure 39), with those three to four years beyond high school showing a higher prevalence of such behaviors than seniors, but with those five or more years beyond high school dropping back to rates actually lower than those observed in senior year. We have interpreted this as a curvilinear age effect, since it seems to replicate across years and graduating classes.[28]

- ***Cigarette smoking*** shows an unusual pattern of age-related differences (Figure 40), in that current smoking (30-day prevalence) is only slightly higher among those in their twenties than among high school seniors, but smoking at heavier levels—such as smoking daily or smoking half-a-pack daily—is considerably higher among the older age groups. This is in part due to the fact that relatively few new people are recruited to smoking past high school, but many who previously were moderate smokers move into a pattern of heavier consumption during early adulthood.[29]

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[28] O'Malley, Bachman, & Johnston, (1988), *op. cit.*

PREVALENCE COMPARISONS FOR SUBGROUPS OF YOUNG ADULTS

Sex Differences

- Statistics on usage rates for young adults one to ten years beyond high school, combined, are given for the total sample and separately for males and females in Table 24 (and later, for the drug use indexes, in Table 31).

- In general, it can be seen that most of the sex differences in drug use which pertained in high school may be found in this young adult sample as well. For example, somewhat more males than females report using ***any illicit drug*** during the prior year (43% vs. 37%). Males have higher annual prevalence rates in most of the illicit drugs—with the highest ratios pertaining for ***LSD***, ***methaqualone***, ***heroin***, ***opiates other than heroin*** and ***cocaine***.

  Cocaine use is higher among males, as is use of the specific form called "***crack***," which was used by 3.8% of males and 2.5% of females during the prior twelve months.

- Other large sex differences are to be found in ***daily marijuana use*** (2.3% for females vs. 6.5% for males in 1987), ***daily alcohol use*** (3.8% vs. 10.0%), and occasions of drinking ***five or more drinks in a row*** in the prior two weeks (26% vs. 48%). The sex difference in occasions of heavy drinking is greater than it is among high school seniors (29% for females vs. 46% for males).

- The use of ***stimulants***, which is slightly higher among females in high school, is slightly higher among males in this post-high school period.

- Among high school seniors in 1987, females are somewhat more likely to smoke ***cigarettes*** in the past month (31% vs. 27%), to smoke daily in the past month (21% vs. 16%), and to smoke at the half-a-pack level (13% vs. 10%). However, among young adults aged 19 to 29, females are only slightly more likely to smoke at all in the past month (31% vs. 30%), no more likely to smoke daily (25% vs. 25%), and slightly less likely to smoke at the half-a-pack a day level (19% vs. 20%). These shifts are probably due more to enduring differences between these cohorts in smoking rates for

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[29] **Because age is confounded with class cohort, and because we have established that cigarette smoking shows strong cohort effects (enduring differences among cohorts), one must be careful in interpreting age-related differences in a cross-sectional sample as if they were due only to age effects (i.e. changes with age consistently observable across cohorts). However, multivariate analyses conducted on panel data from multiple cohorts do show a consistent age effect of the type mentioned here (O'Malley, Bachman, & Johnston, (1988), *op. cit.*).**

TABLE 24

Prevalence of Use of Fourteen Types of Drugs, by Sex

Among Follow-Up Respondents 1-10
Years Beyond High School in 1987

	Males	Females	Total
Approx. Wtd. N=	(3060)	(3750)	(6840)
Marijuana			
Annual	39.5	31.0	34.8
Thirty-Day	25.0	17.2	20.7
Daily	6.5	2.3	4.2
Inhalants[b]			
Annual	2.9	1.5	2.1
Thirty-Day	0.7	0.5	0.6
LSD			
Annual	4.1	1.8	2.9
Thirty-Day	1.3	0.5	0.8
Cocaine			
Annual	19.1	12.9	15.7
Thirty-Day	7.4	4.8	6.0
"Crack"[c]			
Annual	3.8	2.5	3.1
Thirty-Day	0.9	1.0	1.0
Heroin			
Annual	0.3	0.2	0.2
Thirty-Day	0.1	0.1	0.1
Other Opiates[a]			
Annual	3.6	2.6	3.1
Thirty-Day	0.9	1.0	0.9
Stimulants, Adjusted[a,d]			
Annual	9.0	8.4	8.7
Thirty-Day	3.4	3.1	3.2
Sedatives[a]			
Annual	2.8	2.3	2.5
Thirty-Day	0.9	0.8	0.8
Barbiturates[a]			
Annual	2.3	1.9	2.1
Thirty-Day	0.8	0.7	0.7
Methaqualone[a]			
Annual	1.2	0.6	0.9
Thirty-Day	0.3	0.2	0.2
Tranquilizers[a]			
Annual	5.1	5.1	5.1
Thirty-Day	1.4	1.8	1.6
Alcohol			
Annual	90.6	88.4	89.4
Thirty-Day	80.7	71.1	75.4
Daily	10.0	3.8	6.6
5+ drinks in a row in last 2 weeks	48.4	26.3	36.2
Cigarettes			
Thirty-Day	30.3	31.4	30.9
Daily (Any)	24.7	24.8	24.8
Half-pack or more per day	20.2	19.5	19.8

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[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] This drug was asked about in two of the five questionnaire forms. N is two-fifths of N indicated.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

each sex than to different age-related changes for each sex.[30] An examination of sex differences for subgroups (that is, 19–22 year olds and 23–26 year olds) in this larger age-band further suggests that this is the case. (See Tables 25–27.)

Regional Differences

- The regional location of each respondent to the mailed follow-up questionnaire is determined by the answer to a question about state of current residence. States are then assigned by computer to the same regions used in the analysis of the high school data (see Figure 5, presented earlier). Tables 25, 26 and 27 present regional differences in annual prevalence, 30-day prevalence, and current daily prevalence, for each of two age strata—19 to 22 year olds and 23 to 26 year olds.

- For ***marijuana*** use regional differences are not very large, but in general the Northeast shows the highest rates and the South the lowest, as is true among seniors.

- Again consistent with the high school findings, for ***cocaine*** the Northeast and the West show considerably higher rates of annual use than the North Central and the South; but these regional differences are much smaller on 30-day prevalence for the older of the two groups, the 23 to 26 year olds.

- The use of ***stimulants*** is highest in the North Central and the West, again consistent with the high school results.

- For the ***remaining illicit drugs*** the annual and 30-day prevalence rates tend to be very low (under 5% and 2% respectively), making regional differences small in absolute terms, even when there are any. The specifics may be gleaned from Tables 25 and 26.

- The annual and 30-day prevalence rates for ***alcohol*** are somewhat higher in the Northeast and North Central than in the Southern and Western parts of the country, as is true for seniors. ***Occasional heavy drinking*** shows the same pattern: 40%, 44%, 35% and 35% among the 19 to 22 year olds for the Northeast, North Central, South, and West respectively; and 40%, 40%, 30% and 29% among the 23 to 26 year olds.

  Daily drinking shows a somewhat similar pattern among the 19 to 22 year olds, but not among the 23 to 26 year olds. See Table 27.

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[30] In the oldest cohorts males were more likely to be smokers in senior year, whereas in the younger cohorts these sex differences have been reversed.

- Like the senior data, ***cigarette smoking*** shows up lowest in the West and high in the Northeast in these older age groups. However, in these older groups smoking in the North Central is as high as or higher than it is in the Northeast—which differs from the situation among seniors.

Differences Related to Population Density

- Population density was measured by asking the respondent to check which of a number of listed alternatives best described the size and nature of the community in which he or she resided during March of that year. The major answer alternatives are listed in Table 25 and the population size given the respondent to help define each level is provided in the footnote. Those who said they lived in a suburb of a city of given size were merged with those who said they lived in a city of the same size after we examined the drug use data for both strata and concluded that the very modest differences were not worth the complexity of reporting them separately. See Tables 25 through 27 for the relevant results discussed below.

- For ***most of the illicit drugs*** there is not a positive association between size of community and prevalence of use, which may be a counter-intuitive finding for many.

- Among the exceptions is ***marijuana***, which shows a quite modest positive association with population density, due to the lowest category (farm/country) having a below-average rate and the highest category (very large city) an above average rate. There are few differences otherwise.

- ***Cocaine*** use also has a modest positive association with population density—again, much of it due to the farm/country stratum having a lower than average usage rate.

- The very large cities tend to yield the lowest prevalence rates for ***stimulants*** and ***barbiturates***; otherwise there is little systematic relationship with population density.

- ***Alcohol*** use shows a slight positive association with population density when annual or 30-day prevalence measures are used; but, the measure of ***daily drinking*** shows less association. The farm/country stratum still has the lowest rate, but no meaningful differences appear to exist among the other four strata.

TABLE 25

Annual Prevalence of Use of Fourteen Types of Drugs, by Subgroups

Among Respondents of Modal Age 19-22 and 23-26 in 1987

(Entries are percentages)

	Approx. Wtd. N		Marijuana		Inhalants[a,b]		Hallucinogens[a]		LSD		Cocaine		Heroin		Other Opiates	
Age Group =	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26
Total	2900	2600	36.6	34.6	3.6	1.1	5.5	3.1	4.2	1.9	14.7	16.8	0.3	0.2	3.6	2.5
Sex:																
Male	1300	1200	39.5	39.8	4.6	1.6	7.3	5.0	5.6	2.9	16.3	21.1	0.2	0.2	4.3	2.8
Female	1600	1400	34.3	30.1	2.9	0.8	4.1	1.4	3.1	1.0	13.4	13.1	0.3	0.2	3.1	2.2
Region:																
Northeast	600	580	42.1	37.4	3.4	2.3	7.1	3.4	5.0	1.3	20.5	21.9	0.5	0.2	4.0	2.0
North Central	810	710	36.9	36.0	4.0	0.8	5.5	3.7	4.3	2.5	11.1	15.7	0.1	0.2	4.0	2.8
South	920	810	32.3	31.6	4.1	1.0	3.7	2.4	3.2	2.0	10.8	12.5	0.2	0.0	3.1	2.3
West	510	470	38.5	35.3	2.7	0.6	7.0	2.7	5.4	1.5	20.4	20.7	0.3	0.5	4.2	3.1
Population Density:[c]																
Farm/Country	350	360	27.7	24.1	4.3	0.8	3.7	1.8	3.0	1.5	9.5	8.6	0.3	0.3	3.6	1.3
Small Town	950	700	37.9	32.7	3.4	1.5	5.6	2.8	4.6	1.9	13.9	16.6	0.3	0.2	3.9	3.0
Medium City	730	540	36.5	39.5	3.6	1.1	4.8	3.6	3.7	2.4	14.9	17.2	0.3	0.1	2.7	3.4
Large City	520	570	37.8	35.5	4.1	1.0	6.7	3.6	5.0	2.2	17.4	18.6	0.2	0.2	4.5	2.0
Very Large City	330	430	41.0	38.4	3.1	1.0	7.3	3.1	4.9	1.1	17.4	20.8	0.2	0.2	4.0	2.0

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[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

TABLE 25 (Cont.)

Annual Prevalence of Use of Fourteen Types of Drugs, by Subgroups

Among Respondents of Modal Age 19-22 and 23-26 in 1987

(Entries are percentages)

	Approx. Wtd. N		Stimulants[a]		Sedatives		Barbiturates		Methaqualone		Tranquilizers		Alcohol		Cigarettes	
Age Group =	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26
Total	2900	2600	9.5	8.1	2.8	2.2	2.3	1.8	1.1	0.7	4.7	4.9	89.4	90.1	43.3	37.8
Sex:																
Male	1300	1200	9.8	8.5	3.2	2.2	2.6	1.8	1.5	0.8	4.6	5.1	90.4	91.2	41.2	37.9
Female	1600	1400	9.4	7.8	2.4	2.1	2.0	1.8	0.8	0.5	4.9	4.8	88.6	89.2	44.9	37.7
Region:																
Northeast	600	580	8.6	5.2	2.3	1.9	1.5	1.4	1.6	0.7	4.5	4.1	92.3	95.8	44.7	39.3
North Central	810	710	11.6	10.5	2.4	2.4	2.3	2.0	0.7	1.1	3.7	4.6	92.7	93.1	48.3	40.5
South	920	810	8.2	7.8	3.3	2.6	2.8	2.3	1.1	0.4	6.4	5.7	86.1	84.8	41.3	37.4
West	510	470	10.1	9.2	3.2	1.7	2.4	1.3	1.3	0.5	3.9	5.1	87.5	88.8	36.9	31.4
Population Density:[b]																
Farm/Country	350	360	10.3	6.8	3.0	1.2	2.7	1.1	1.6	0.7	4.0	4.0	87.0	81.9	45.8	36.6
Small Town	950	700	9.9	9.0	3.4	2.6	3.1	2.2	0.8	0.7	5.7	4.8	89.5	89.6	43.3	40.0
Medium City	730	540	8.6	9.8	1.8	3.1	1.6	2.5	0.6	0.7	3.5	6.6	89.2	91.3	40.7	40.4
Large City	520	570	11.3	8.0	3.1	2.1	2.1	1.5	1.6	0.9	5.5	3.6	90.3	92.0	45.4	36.7
Very Large City	330	430	6.8	6.1	2.5	1.3	1.2	1.2	2.0	0.3	3.6	5.3	91.4	94.1	41.9	32.9

[a] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[b] A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

TABLE 26

Thirty-Day Prevalence of Use of Fourteen Types of Drugs, by Subgroups

Among Respondents of Modal Age 19-22 and 23-26 in 1987

(Entries are percentages)

	Approx. Wtd. N		Marijuana		Inhalants[a,b]		Hallucinogens[a]		LSD		Cocaine		Heroin		Other Opiates	
Age Group =	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26
Total	2900	2600	21.0	20.6	0.9	0.5	1.9	0.8	1.5	0.4	5.3	6.5	0.1	0.1	0.9	0.9
Sex:																
Male	1300	1200	24.4	25.0	1.0	0.6	2.6	1.5	2.1	0.7	5.6	8.5	0.0	0.1	1.0	0.8
Female	1600	1400	18.4	16.7	0.9	0.4	1.4	0.2	1.0	0.2	5.0	4.9	0.1	0.1	0.9	0.9
Region:																
Northeast	600	580	26.1	22.9	0.4	0.5	2.6	1.3	2.1	0.4	7.6	7.7	0.0	0.1	1.4	0.8
North Central	810	710	20.5	21.1	1.4	0.4	1.8	1.1	1.3	0.7	3.3	6.1	0.1	0.2	0.9	1.2
South	920	810	17.4	18.6	1.0	0.8	1.7	0.4	1.3	0.4	4.3	5.6	0.0	0.0	0.8	0.5
West	510	470	23.4	21.5	0.7	0.1	1.8	0.4	1.5	0.2	7.4	8.1	0.2	0.2	0.8	1.1
Population Density:[c]																
Farm/Country	350	360	16.6	14.3	1.8	0.7	1.5	0.7	0.9	0.5	3.5	3.4	0.1	0.3	0.7	0.4
Small Town	950	700	21.0	20.1	0.4	0.3	1.7	0.7	1.3	0.6	5.0	6.3	0.2	0.0	1.3	1.3
Medium City	730	540	21.6	22.9	1.4	0.5	1.8	0.8	1.4	0.3	5.5	6.6	0.1	0.1	0.7	1.2
Large City	520	570	20.9	20.5	1.1	0.6	2.2	0.9	2.0	0.1	6.0	7.7	0.0	0.1	1.1	0.7
Very Large City	330	430	25.0	23.5	0.3	0.3	2.7	0.9	2.2	0.5	5.8	7.8	0.0	0.1	0.6	0.3

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[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

TABLE 26 (Cont.)

Thirty-Day Prevalence of Use of Fourteen Types of Drugs, by Subgroups

Among Respondents of Modal Age 19-22 and 23-26 in 1987

(Entries are percentages)

	Approx. Wtd. N		Stimulants[a]		Sedatives		Barbiturates		Methaqualone		Tranquilizers		Alcohol		Cigarettes	
Age Group =	**19-22**	**23-26**	**19-22**	**23-26**	**19-22**	**23-26**	**19-22**	**23-26**	**19-22**	**23-26**	**19-22**	**23-26**	**19-22**	**23-26**	**19-22**	**23-26**
Total	2900	2600	3.6	2.9	0.9	0.8	0.7	0.8	0.3	0.2	1.5	1.6	74.8	76.3	31.2	30.0
Sex:																
Male	1300	1200	3.7	3.2	1.1	0.8	1.0	0.8	0.3	0.2	1.1	1.7	78.7	81.9	29.7	30.2
Female	1600	1400	3.5	2.7	0.7	0.9	0.5	0.9	0.2	0.1	1.8	1.6	71.7	71.4	32.4	29.7
Region:																
Northeast	600	580	2.6	1.8	0.7	0.7	0.5	0.7	0.2	0.1	1.1	1.1	78.7	83.4	23.3	32.7
North Central	810	710	5.7	4.0	0.9	1.0	0.8	1.0	0.3	0.4	0.7	1.7	80.2	80.0	35.8	33.2
South	920	810	2.6	2.3	1.1	1.0	1.0	1.0	0.2	0.0	2.7	1.8	69.1	68.7	29.7	28.9
West	510	470	3.4	4.0	1.0	0.6	0.7	0.5	0.4	0.1	1.3	2.0	72.0	75.4	22.6	22.5
Population Density:[b]																
Farm/Country	350	360	4.2	2.5	1.0	0.7	0.8	0.7	0.6	0.6	1.8	1.3	70.1	64.1	33.2	30.3
Small Town	950	700	3.7	3.0	1.2	1.1	1.0	1.1	0.3	0.0	1.9	1.6	75.5	75.6	31.2	31.5
Medium City	730	540	3.2	3.7	0.6	1.2	0.6	1.1	0.0	0.1	1.0	2.0	75.2	76.0	30.0	31.8
Large City	520	570	4.0	3.2	0.8	0.4	0.6	0.4	0.2	0.1	1.5	1.0	75.3	79.6	32.4	28.9
Very Large City	330	430	2.6	1.9	0.6	0.7	0.3	0.7	0.3	0.0	1.0	2.0	77.0	83.6	28.4	26.4

[a] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[b] A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

TABLE 27

Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes, by Subgroups

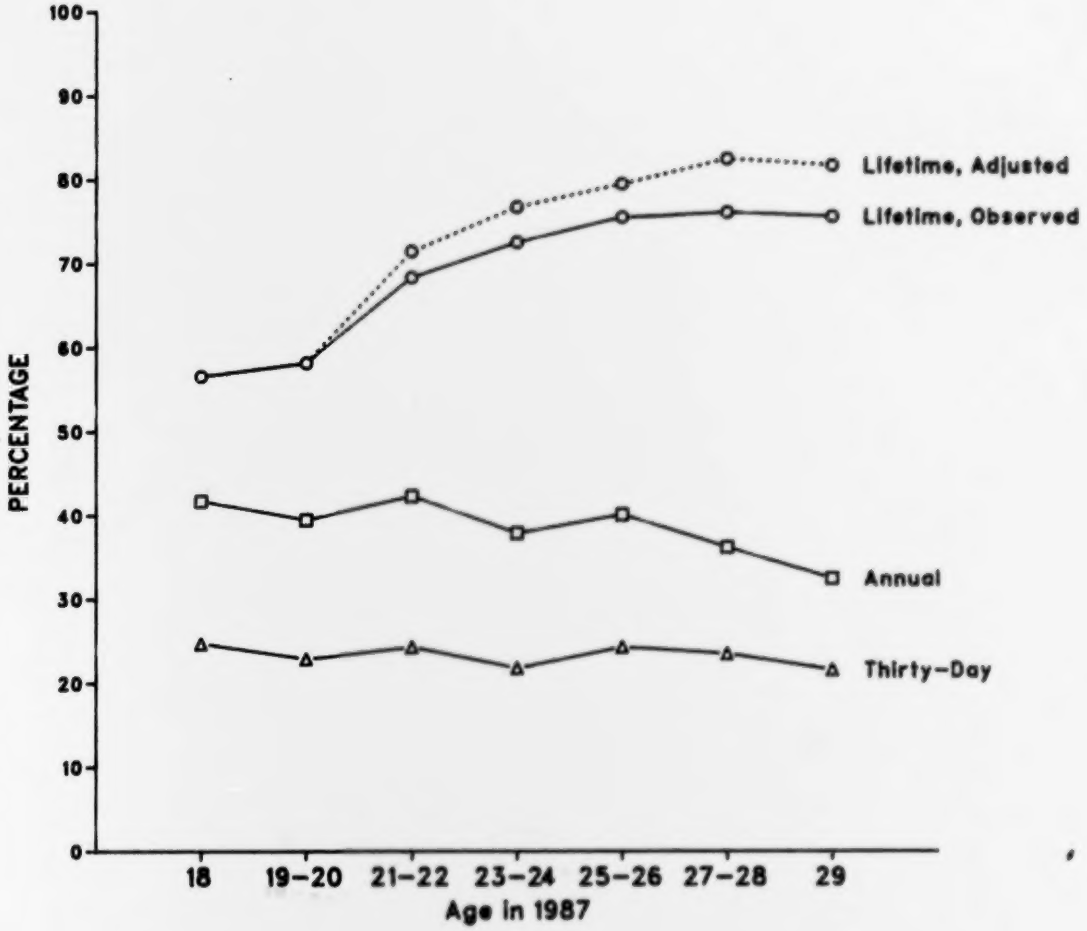
Among Respondents of Modal Age 19-22 and 23-26 in 1987

	Approx. Wtd. N				Percent who used daily in last thirty days					
							Cigarettes			
			Marijuana		Alcohol		One or more		Half-pack or more	
Age Group =	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26	19-22	23-26
Total	2900	2600	3.7	4.6	6.3	6.5	23.3	24.8	17.4	20.7
Sex:										
Male	1300	1200	5.7	7.0	9.1	10.1	22.5	25.2	17.6	21.2
Female	1600	1400	2.0	2.6	4.2	3.3	23.9	24.5	17.2	20.4
Region:										
Northeast	600	580	4.5	5.1	7.5	6.6	26.6	27.5	20.8	23.0
North Central	810	710	3.3	4.8	6.6	6.1	26.4	27.3	20.0	23.8
South	920	810	3.2	3.9	5.7	6.0	21.6	24.4	15.9	20.4
West	510	470	4.2	5.5	5.6	6.9	16.1	17.4	11.1	13.4
Population Density:[a]										
Farm/Country	350	360	4.4	3.9	5.0	5.3	27.1	25.0	19.8	22.0
Small Town	950	700	3.5	5.3	6.7	6.6	23.3	25.4	18.8	20.8
Medium City	730	540	3.1	4.3	6.8	7.6	22.6	26.3	16.6	22.6
Large City	520	570	4.2	4.4	5.9	6.0	22.9	24.2	16.6	19.6
Very Large City	330	430	3.9	4.9	6.7	6.3	19.5	22.4	12.8	18.2

[a] A small town is defined as having less than 50,000 inhabitants; a medium city as 50,000-100,000; a large city as 100,000-500,000; and a very large city as having over 500,000 residents. Within each level of population density suburban and urban respondents are combined.

FIGURE 28

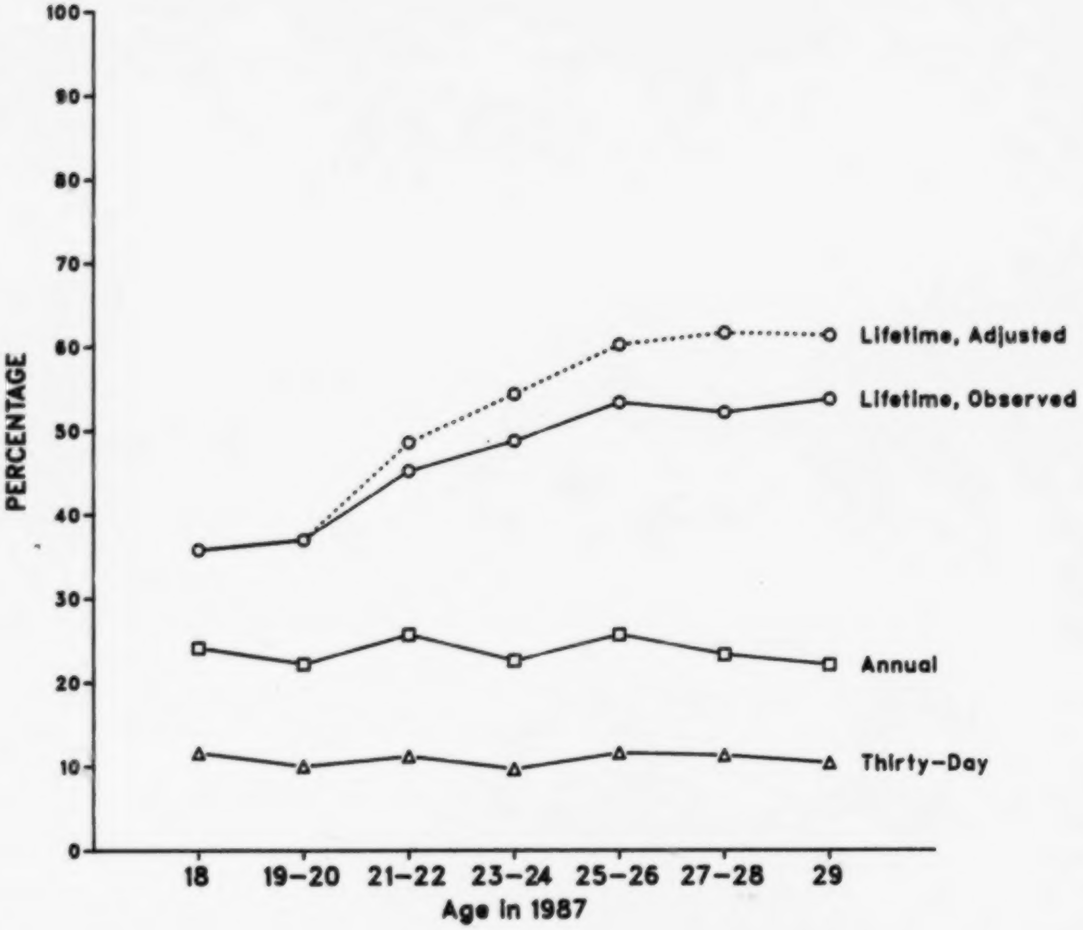
Any Illicit Drug: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 29

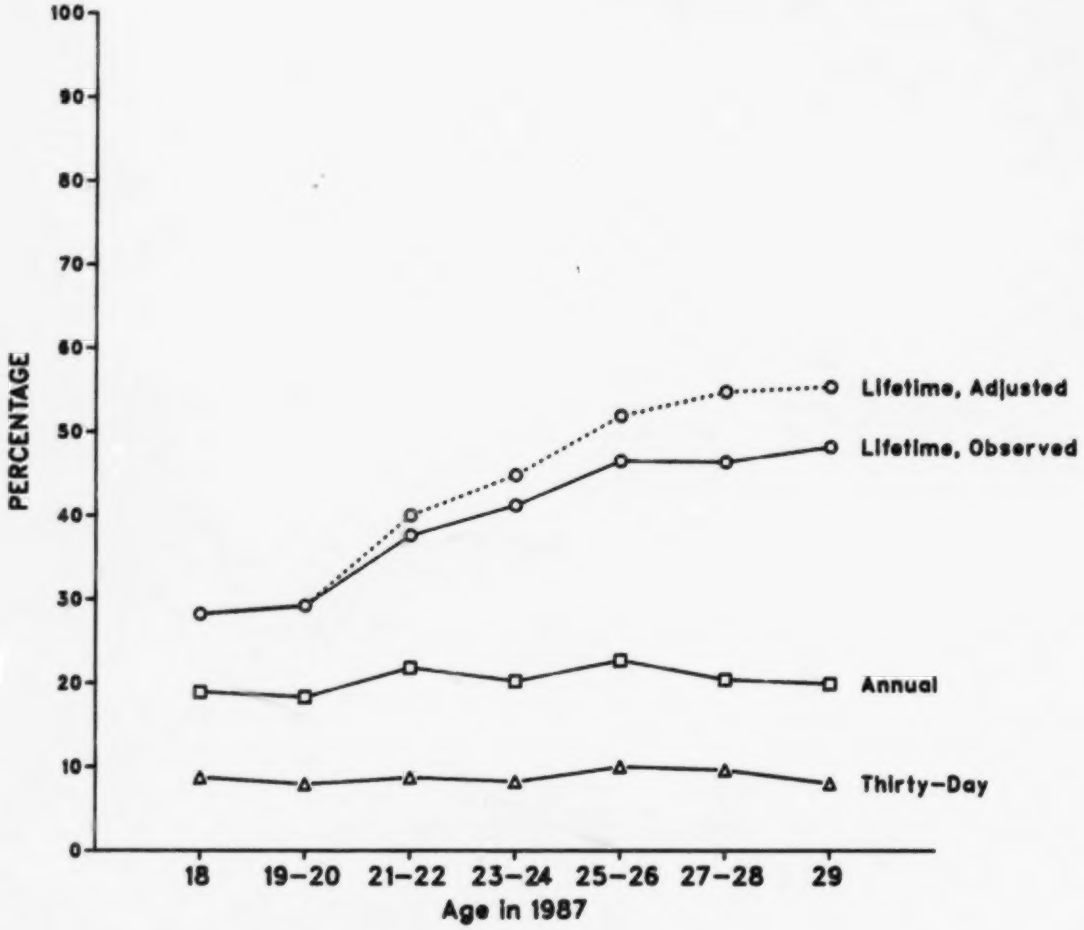
Any Illicit Drug Other than Marijuana: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 30

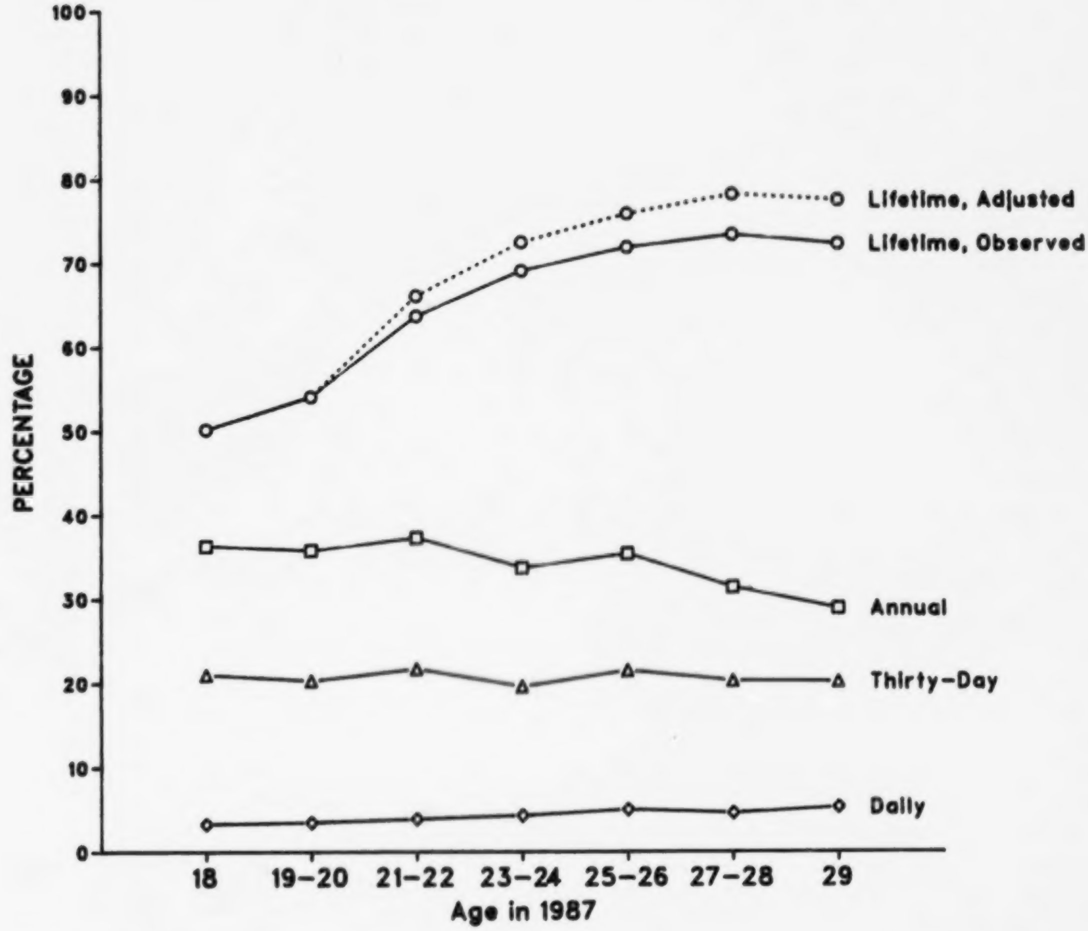
Any Illicit Drug Other than Marijuana or Stimulants: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 31

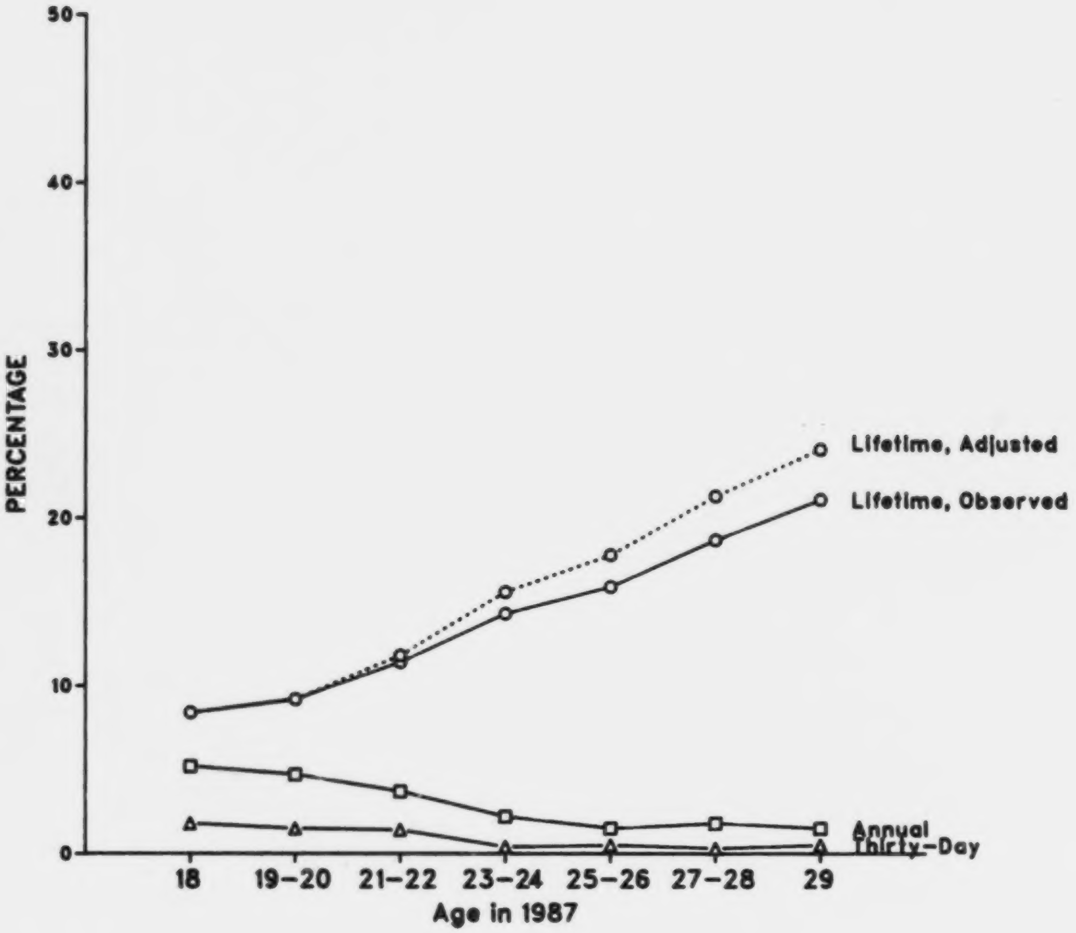
Marijuana: Lifetime, Annual, Thirty-Day, and Daily Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 32

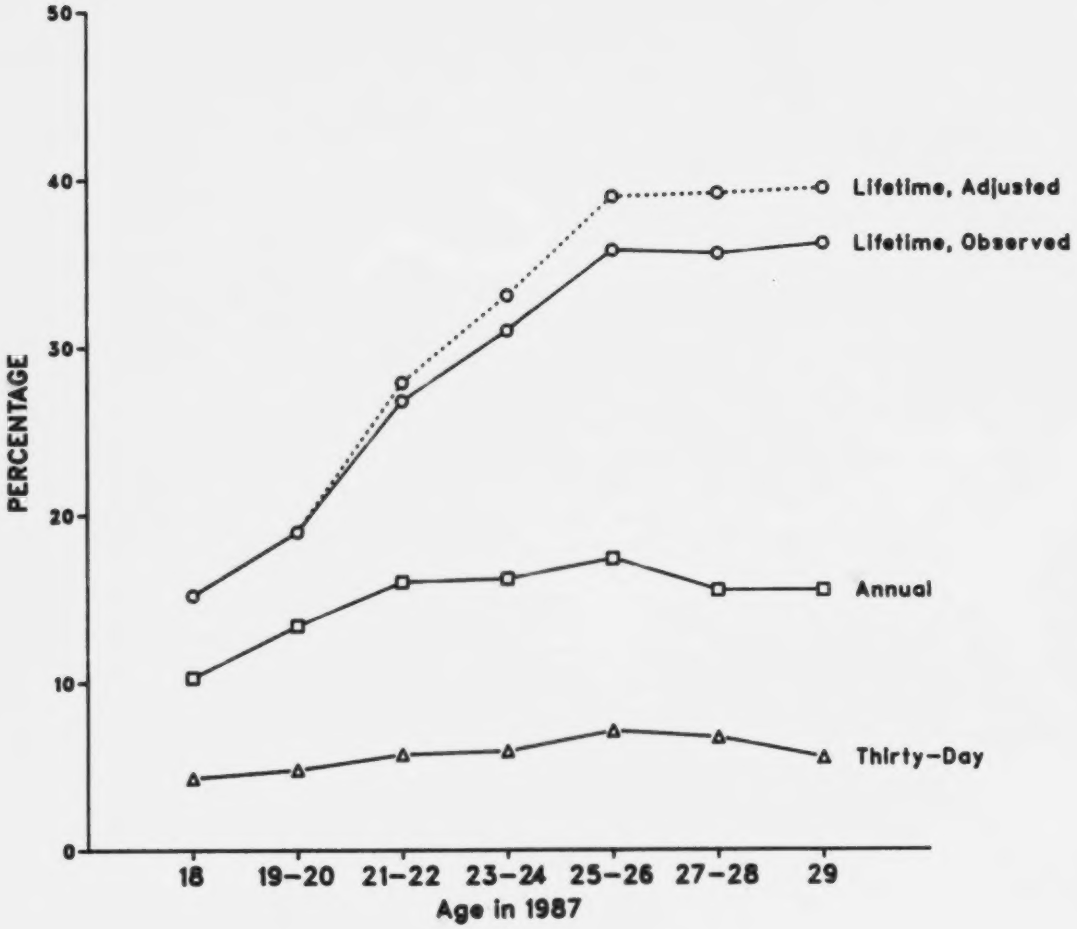
LSD: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 33

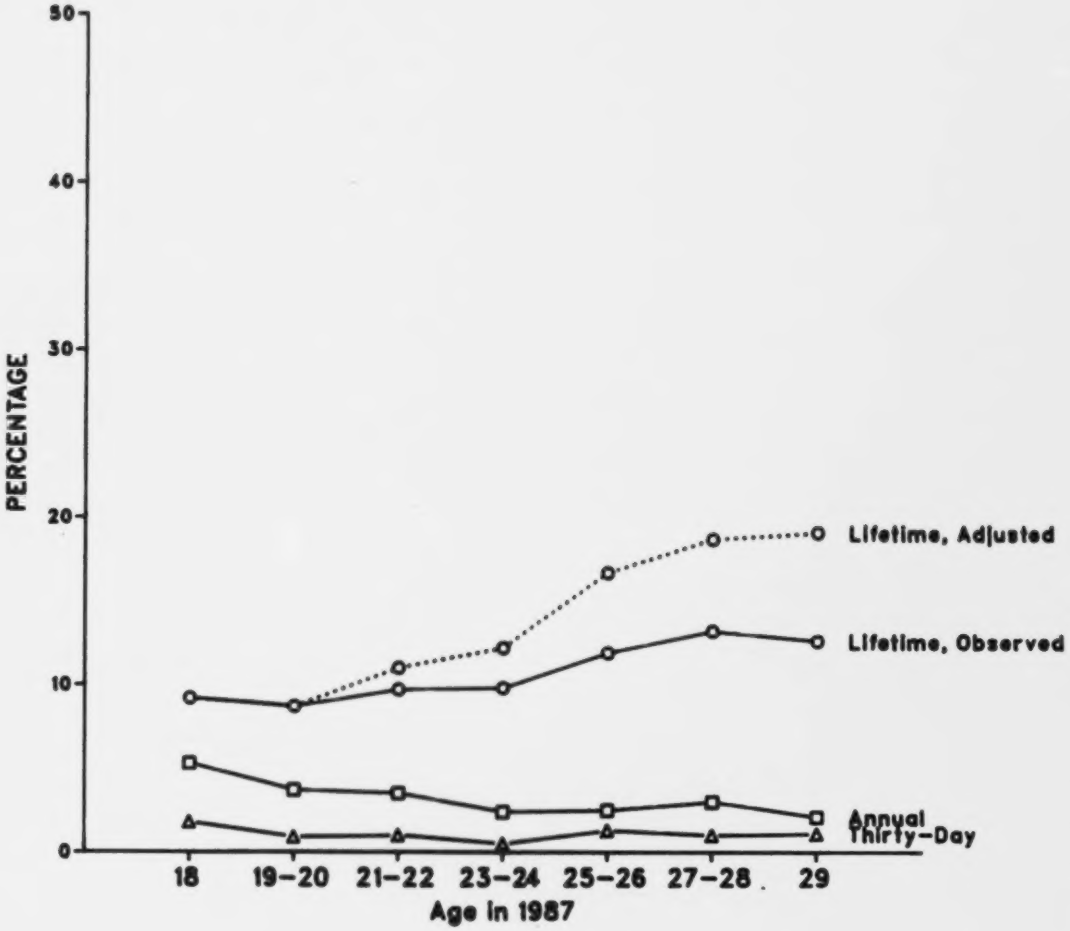
Cocaine: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 34

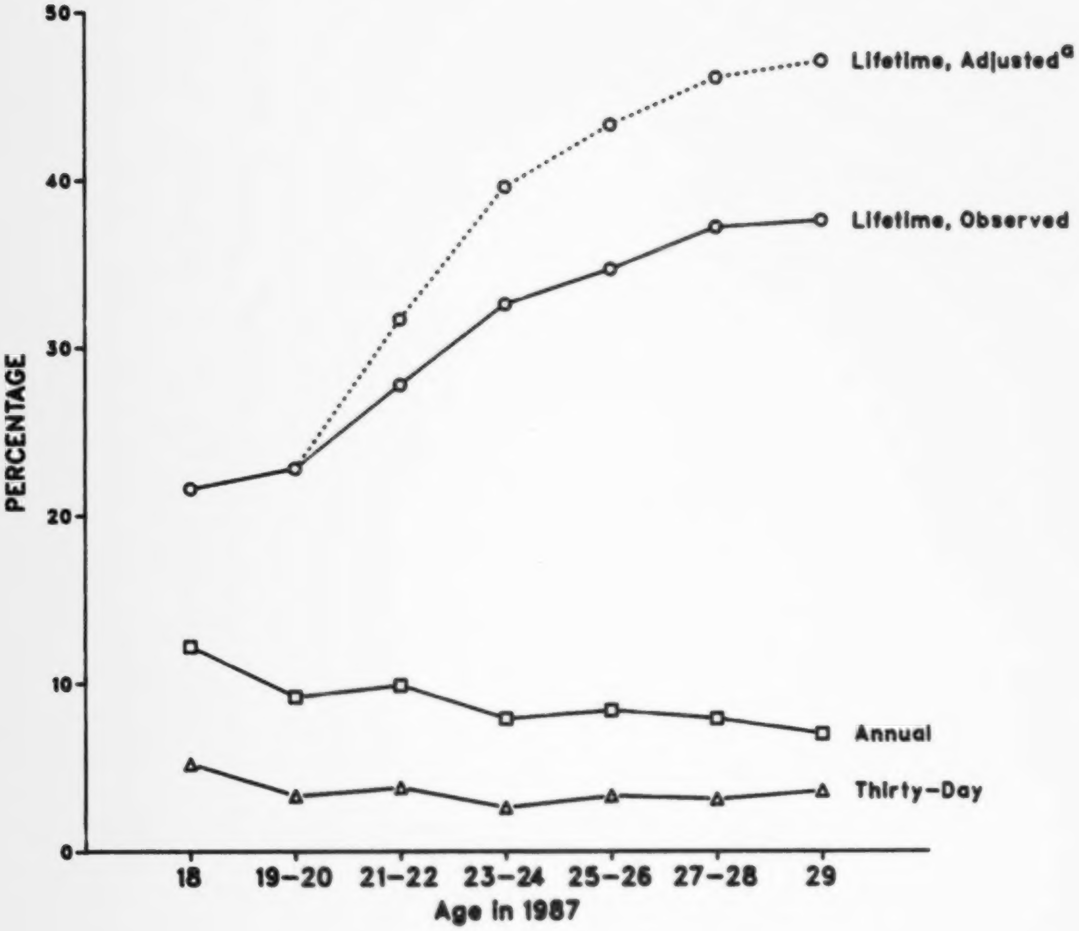
Other Opiates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 35

Stimulants: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group

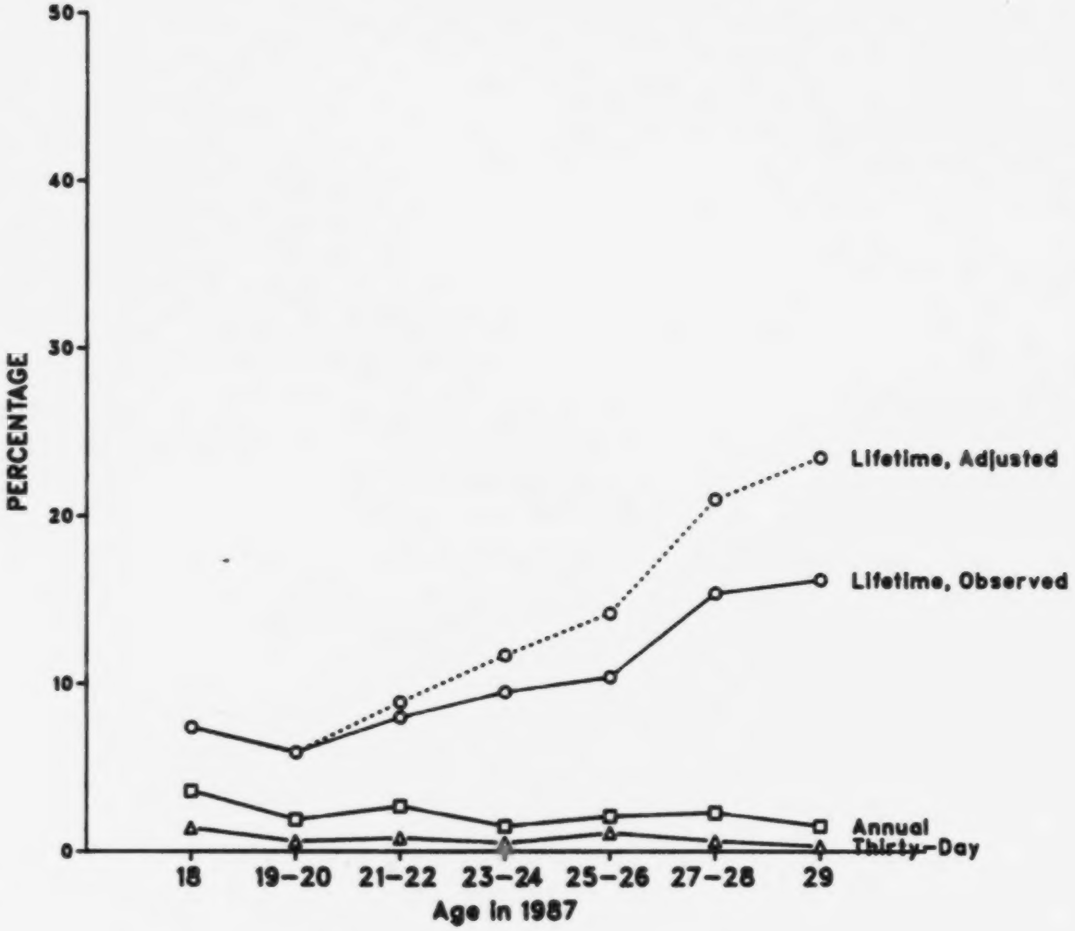


NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a] The divergence between the two lifetime prevalence estimates is due in part to the change in question wording initiated in 1982/1983, which clarified the instruction to omit non-prescription stimulants.

FIGURE 36

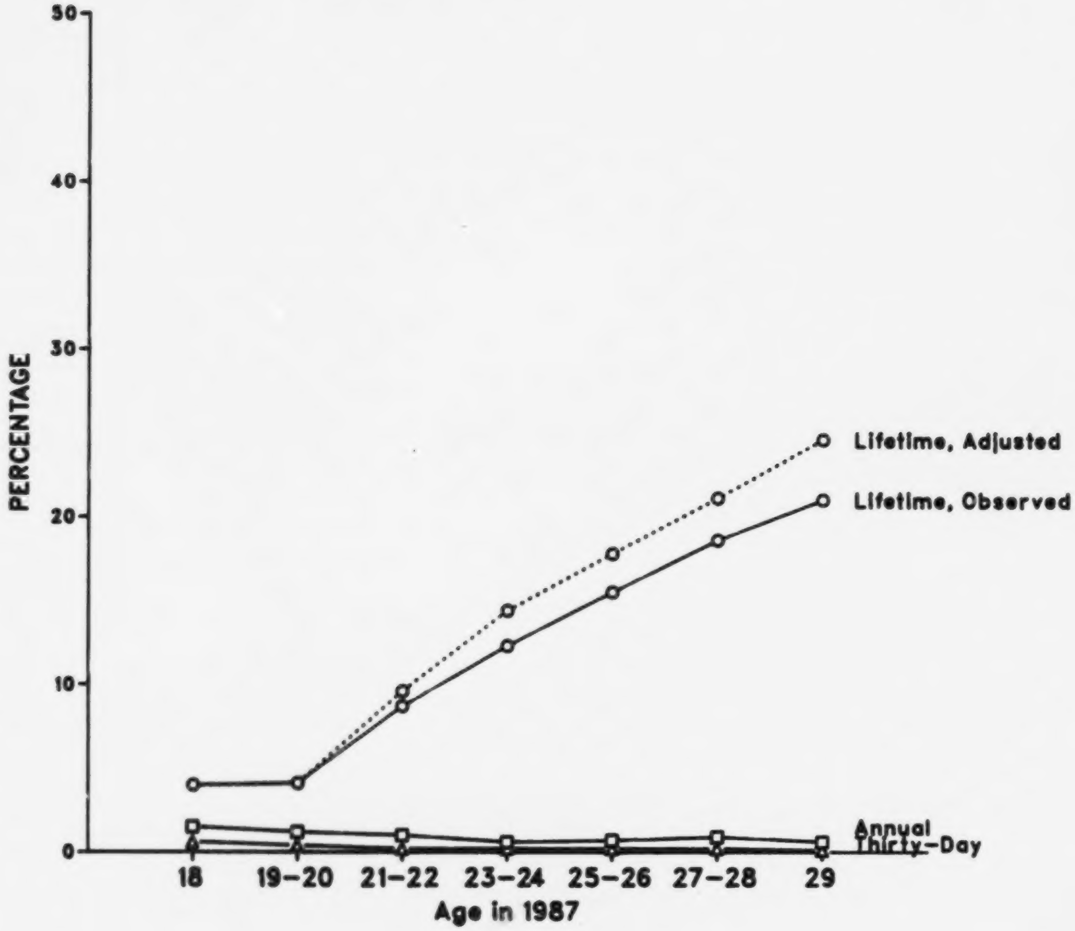
Barbiturates: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 37

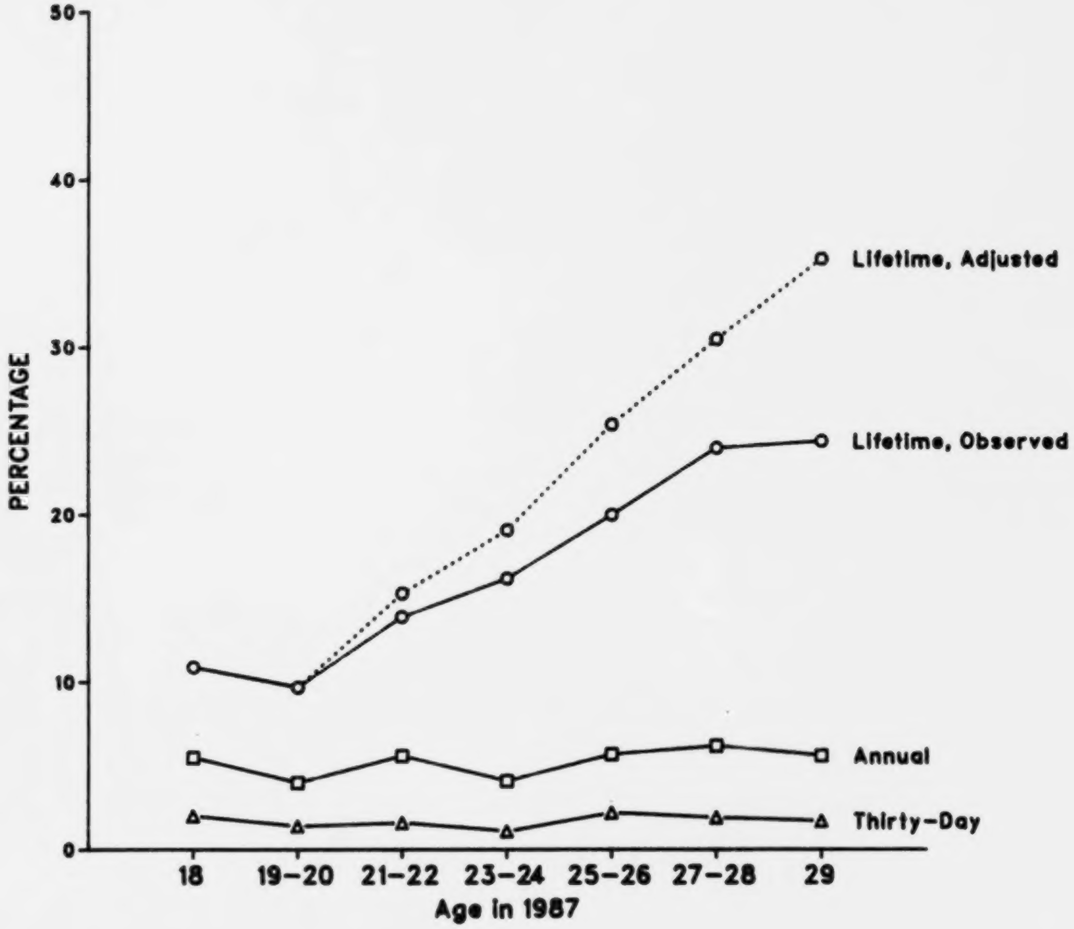
Methaqualone: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987 by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 38

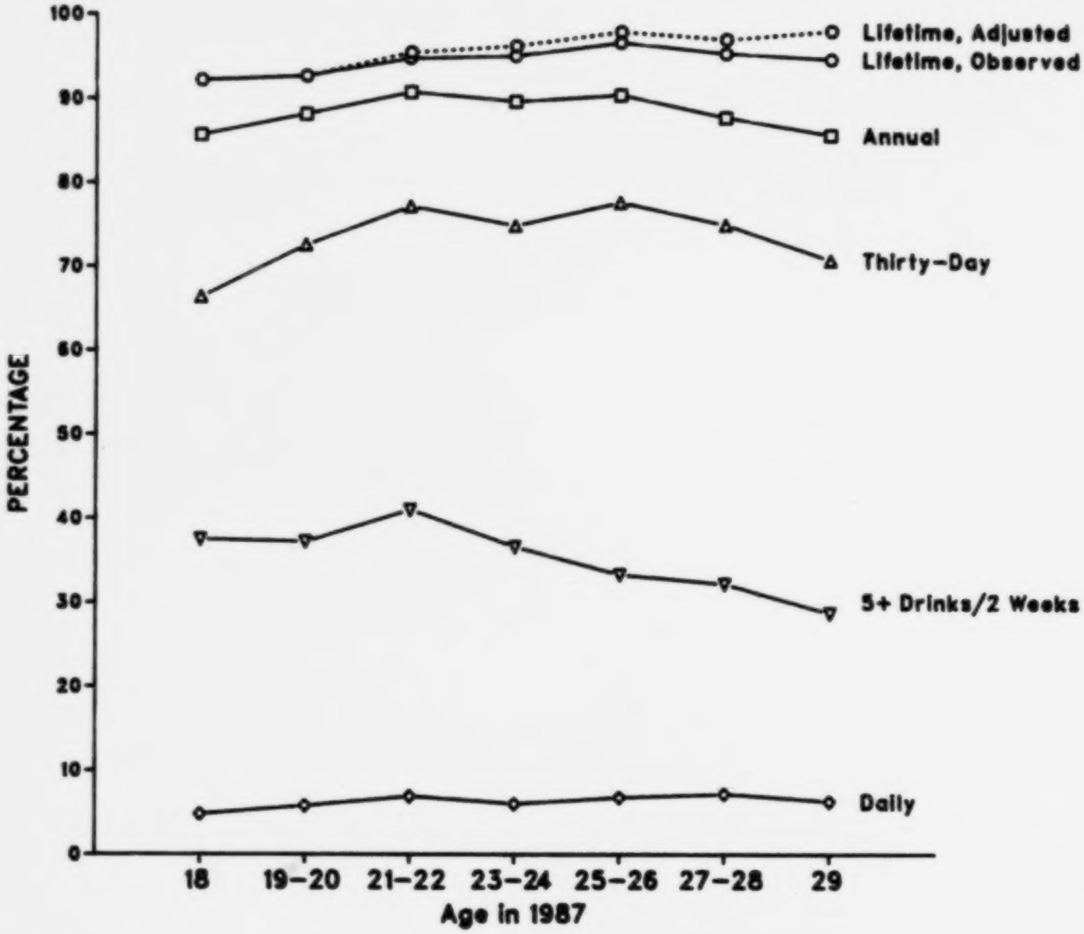
Tranquilizers: Lifetime, Annual, and Thirty-Day Prevalence Among Young Adults, 1987 by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 39

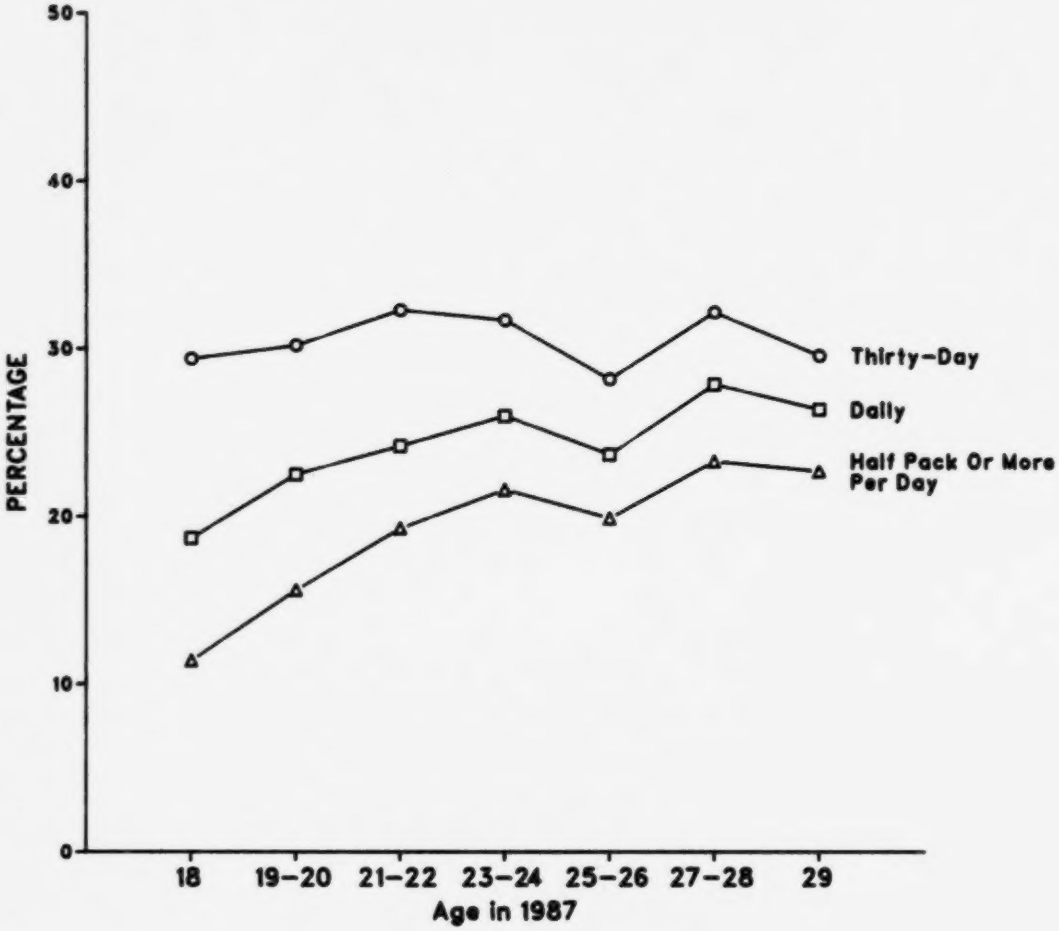
Alcohol: Various Prevalence Rates Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 40

Cigarettes: Thirty-Day, Daily, and Half-Pack Prevalence Among Young Adults, 1987
by Age Group



NOTE: Lifetime prevalence is not asked in the follow-up surveys.

Chapter 11

TRENDS IN DRUG USE AMONG YOUNG ADULTS POST-HIGH SCHOOL

Trends in the use of the various licit and illicit drugs are presented in Figures 41 through 53 based on all high school graduates from one up to ten years beyond high school. Each data point in these figures, which represents two adjacent class cohorts, is based on approximately 1200 weighted data cases. (Actual N's are somewhat larger.)

TRENDS IN PREVALENCE THROUGH 1987: YOUNG ADULTS

- For most drugs, the trends in use among the older age groups have paralleled the changes among seniors discussed earlier in this monograph. This means that many of the changes observed have been secular trends—that is, they are observable across the various age groups. This has generally been true for the recent downward trends in the lifetime, annual, and 30-day prevalence measures for the use of ***any illicit drug***, ***marijuana***, ***LSD***, ***methaqualone***, ***stimulants***, ***barbiturates***, ***tranquilizers***, and ***opiates other than heroin***. (***LSD*** and ***opiates other than heroin*** both showed signs of leveling this year, 1987.) All age groups also showed the important decline in ***cocaine*** in 1987 already reported for seniors.

- Several of these drug classes have actually exhibited a faster decline in use during recent years among these older age groups than among the high school seniors. These include ***LSD***, ***stimulants***, ***methaqualone***, and ***cocaine*** (in 1987).

- The ***alcohol*** statistics for the older age groups (see Figure 52) also generally have tracked those reported for seniors (meaning a very gradual increase in the late 70's and then a fairly level period through 1983), with one important exception. The slight decline observed among seniors between 1983 and 1985—particularly in 30-day prevalence and in ***occasions of heavy drinking*** during the prior two weeks—is not observable among those in their early to mid-twenties. Whether these differential trends may be due to the effects of changes in the drinking age laws in many states, which would tend to impact only specific age groups, remains to be determined. (The authors have begun an investigation of that possibility under a separate grant from the National Institute on Alcohol Abuse and Alcoholism.) Since 1985, all drinking measures have been quite stable for all age groups.

- The prevalence statistics for ***cigarette smoking*** do not tend to show parallel trends across age groups (Figure 53). While the curves are of the same general shape for each age group, each curve tends to be displaced to the right of the one for the immediately preceding age group (which was two years younger). This pattern is very similar to the one described earlier for lifetime smoking rates for various grade levels below senior year. This is the classic pattern exhibited when there is a "cohort effect" present, meaning that a class cohort tends to be different from other cohorts in a consistent way across the life span. This is how we interpret the cigarette data (O'Malley et al., 1988, referenced earlier), and we believe that the cohort differences tend to remain throughout the lifespan due to the highly dependence-producing nature of nicotine. The lower levels of ***cigarette smoking*** observed in the classes of 1978, 1979, and 1980 when they were seniors are now observable for the same classes in their mid-twenties (see Figure 53b). However, the other age groups covered (which correspond to other graduating classes) do not show any decline in 1987, nor do the current seniors.

  None of the other drugs studied here shows such a clear pattern of enduring cohort differences, despite wide variations in their use by different cohorts at a given age. (There *is* a modest cohort effect observed for daily marijuana use, and it may be in part attributable to the very strong association between that behavior and cigarette smoking.)

- Tables 28 through 31 present the trends in prevalence for 1986–1987 for all respondents one to ten years beyond high school combined. They show that in 1987 there were significant declines in the proportion of young adults reporting the use in the past year of ***any illicit drug***, ***any illicit drug other than marijuana*** and ***any illicit drug other than marijuana or stimulants***. The annual prevalence of ***marijuana***, ***cocaine***, ***sedatives***, and ***methaqualone*** specifically, also declined significantly (Table 28). All of these changes parallel those observed among seniors. (Much of the decrease in the illicit drug use index is also due to the significant declines in annual and 30-day cocaine use among all age groups, including high school seniors.)

- The important downturn in ***cocaine***, observed for the first time among all age groups in 1987, may actually have been sharper among the older age groups encompassed here. (See Figure 46.)

- The leveling in ***crack*** use observed among seniors between 1986 and 1987 (annual prevalence figures were 4.1% and 4.0%, respectively) was paralleled by a leveling among the young adults, where annual prevalence held steady at 3.2% and 3.1%, respectively. (Recall that the question sets changed between 1986 and 1987, but that both should yield a reasonable assessment of annual prevalence. No lifetime or 30-day prevalence data were available for 1986.)

- The decreases from 1985 to 1986 among seniors and the young adult sample in annual prevalence of *opiates other than heroin* did not continue in 1987, as prevalence remained at 5% among seniors and 3% among the older age group.

- The data from young adults also showed no significant change in 1987 in the annual prevalence rates of *tranquilizers* and *barbiturates*, as was true among seniors. Annual prevalence for *LSD* and *heroin* remained stable for both groups.

- In sum, except for cigarettes, these various samples of high school seniors and young adults show longer-term trends in substance use, as well as near-term trends, which tend to be highly parallel. Although divergent trends would not necessarily demonstrate a lack of validity in either set of data (because such a divergence would not be unreasonable to expect in reality), we believe that the high degree of *convergence* provides an important source of validation of the trends which have been reported among the seniors. In fact, each of these sets of data helps to validate the "trend story" reported by the other.

TRENDS FOR IMPORTANT SUBGROUPS OF YOUNG ADULTS

Four-year age groupings are used here to examine subgroup trends in order to base annual estimates on a sufficiently large number of cases for reliable estimates. Subgroup data for respondents of each sex, and for respondents from communities of different size are available for 19 to 22 year olds since 1980 and for 23 to 26 year olds since 1984. (These data are not shown in tabular form.) Information on region was not collected until 1987, so no trend data are yet available for the four regions of the country.

Sex Differences in Trends

- In general, sex differences have been narrowing as males have tended to show faster declines than females in use of a number of drugs. For example, among 19 to 22 year olds, annual prevalence of use of *any illicit drug* fell by 16% among males (to 43%) compared to 12% among females (to 40%).

- Among 19 to 22 year olds the downward trend in *marijuana* use since 1980 has been sharper among males than females, thus narrowing the sex difference. Annual prevalence fell by 16% (to 40%) among males between 1980 and 1987, while it fell by less than 11% among females (to 34%). During the same interval *daily marijuana use* for this age group fell from 13% to 6% among males vs. from 6% to 2% among females—again narrowing the sex difference.

TABLE 28

Trends in Annual Prevalence of Fourteen Types of Drugs

Among Follow-Up Respondents 1-10 Years Beyond High School

	Percent who used in last twelve months		
	1986	1987	'86-'87 change
Approx. Wtd. N =	(6860)	(6840)	
Marijuana	36.5	34.8	-1.7s
Inhalants[b]	1.9	2.1	+0.2
LSD	3.0	2.9	-0.1
Cocaine	19.7	15.7	-4.0sss
"Crack"[c]	3.2	3.1	-0.1
Heroin	0.2	0.2	0.0
Other Opiates[a]	3.1	3.1	0.0
Stimulants, Adjusted[a,d]	10.6	8.7	-1.9sss
Sedatives[a]	3.0	2.5	-0.5
Barbiturates[a]	2.3	2.1	-0.2
Methaqualone[a]	1.3	0.9	-0.4s
Tranquilizers[a]	5.4	5.1	-0.3
Alcohol	88.6	89.4	+0.8
Cigarettes	NA	NA	NA

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] This drug was asked about in one of the five questionnaire forms in 1986 (N is one-fifth of N indicated), and in two of the five questionnaire forms in 1987 (N is two-fifths of N indicated).

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 29

Trends in Thirty-Day Prevalence of Fourteen Types of Drugs Among Follow-Up Respondents 1-10 Years Beyond High School

	Percent who used in last thirty days		
	1986	1987	'86–'87 change
Approx. Wtd. N =	(6860)	(6840)	
Marijuana	22.0	20.7	−1.3
Inhalants[b]	0.4	0.6	+0.2
LSD	0.9	0.8	−0.1
Cocaine	8.2	6.0	−2.2sss
"Crack"[c]	NA	1.0	NA
Heroin	0.1	0.1	0.0
Other Opiates[a]	0.9	0.9	0.0
Stimulants, Adjusted[a,d]	4.0	3.2	−0.8s
Sedatives[a]	0.9	0.8	−0.1
Barbiturates[a]	0.7	0.7	0.0
Methaqualone[a]	0.3	0.2	−0.1
Tranquilizers[a]	1.8	1.6	−0.2
Alcohol	75.1	75.4	+0.3
Cigarettes	31.1	30.9	−0.2

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] This drug was asked about in two of the five questionnaire forms. N is two-fifths of N indicated.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 30

Trends in Thirty-Day Prevalence of Daily Use of Fourteen Types of Drugs

Among Follow-Up Respondents 1-10 Years Beyond High School

	Percent using daily in last thirty days		
	1986	1987	'86–'87 change
Approx. Wtd. N =	(6860)	(6840)	
Marijuana	4.1	4.2	+0.1
Inhalants[b]	0.0	0.0	0.0
LSD	0.0	0.0	0.0
Cocaine	0.2	0.1	−0.1
"Crack"[c]	NA	0.0	NA
Heroin	0.0	0.0	0.0
Other Opiates[a]	0.0	0.0	0.0
Stimulants, Adjusted[a,d]	0.2	0.2	0.0
Sedatives[a]	0.0	0.0	0.0
Barbiturates[a]	0.0	0.0	0.0
Methaqualone[a]	0.0	0.0	0.0
Tranquilizers[a]	0.0	0.0	0.0
Alcohol			
Daily	6.1	6.6	+0.5
5+ drinks in a row in last 2 weeks	36.1	36.2	+0.1
Cigarettes			
Daily	25.2	24.8	−0.4
Half-pack or more per day	20.2	19.8	−0.4

NOTES: Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] This drug was asked about in two of the five questionnaire forms. N is two-fifths of N indicated.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 31

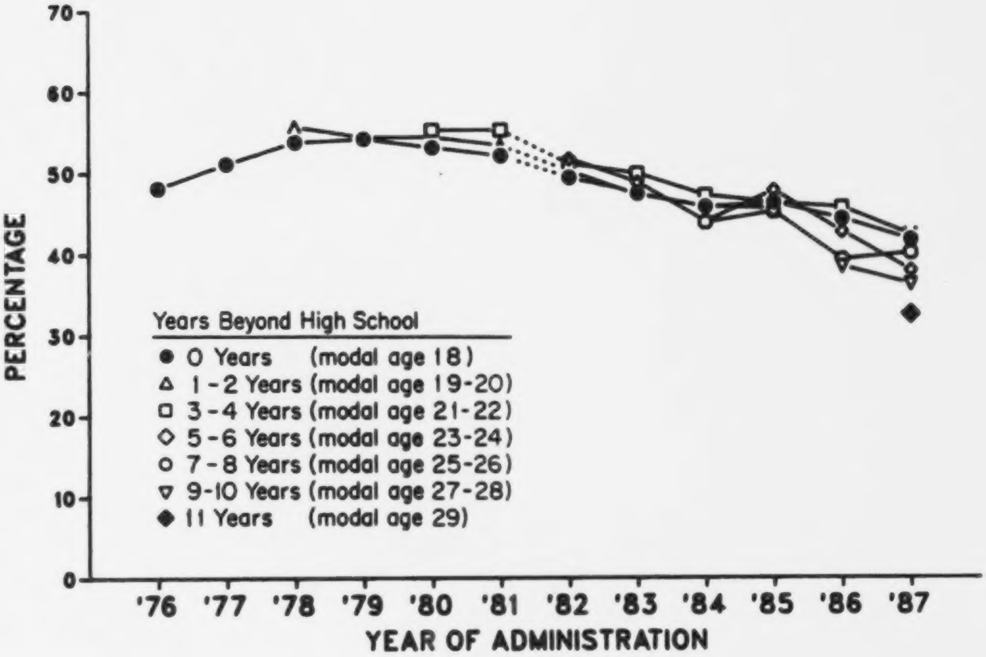
Trends in Annual and Thirty-Day Prevalence of An Illicit Drug Use Index
Among Follow-Up Respondents 1-10 Years Beyond High School
by Sex

	1986	1987	'86−'87 change
	Percent reporting use in last twelve months		
Any Illicit Drug	41.9	39.3	−2.6ss
Males	45.3	42.6	−2.7s
Females	39.0	36.5	−2.5s
Any Illicit Drug Other than Marijuana	27.0	23.9	−3.1sss
Males	30.4	26.5	−3.9ss
Females	24.0	21.6	−2.4s
Any Illicit Drug Other than Marijuana or Stimulants	24.1	20.6	−3.5sss
Males	27.9	23.9	−4.0sss
Females	20.7	17.9	−2.8ss
	Percent reporting use in last thirty days		
Any Illicit Drug	25.8	23.4	−2.4ss
Males	29.9	27.1	−2.8s
Females	22.2	20.2	−2.0s
Any Illicit Drug Other than Marijuana	13.0	10.7	−2.3sss
Males	15.2	12.3	−2.9ss
Females	11.0	9.4	−1.6s
Any Illicit Drug Other than Marijuana or Stimulants	10.9	8.9	−2.0sss
Males	13.3	10.3	−3.0sss
Females	8.7	7.6	−1.1
	Approx. Wtd. N		
All Respondents	(6860)	(6840)	
Males	(3150)	(3060)	
Females	(3680)	(3750)	

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.

FIGURE 41

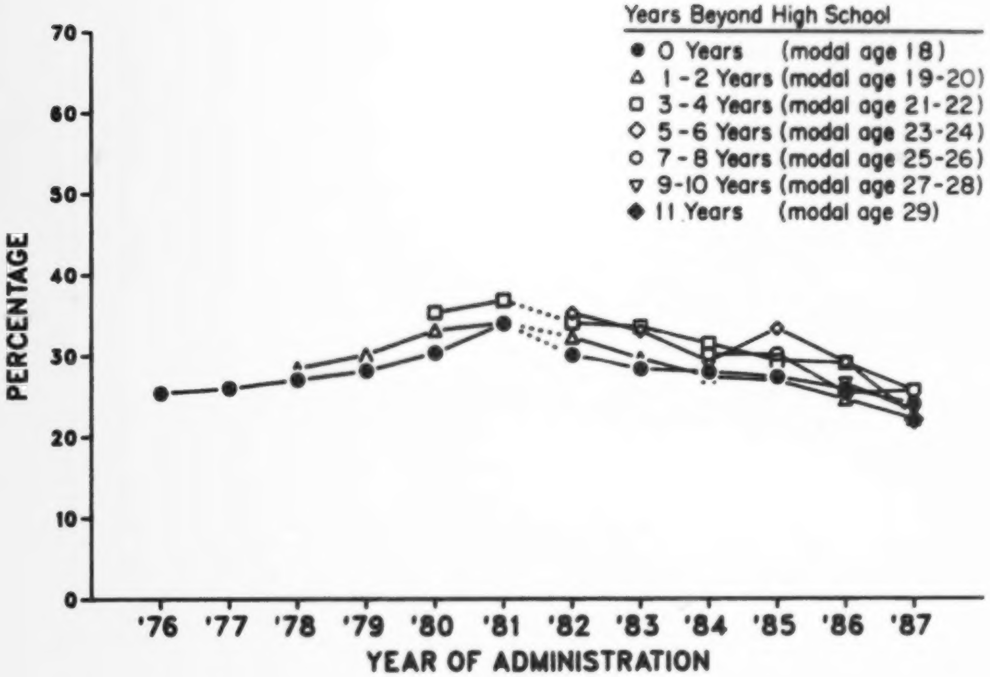
Any Illicit Drug: Trends in Annual Prevalence Among Young Adults by Age Group



NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 42

Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among Young Adults
By Age Group



NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 43

Any Illicit Drug Other than Marijuana or Stimulants: Trends in Annual Prevalence Among Young Adults
by Age Group

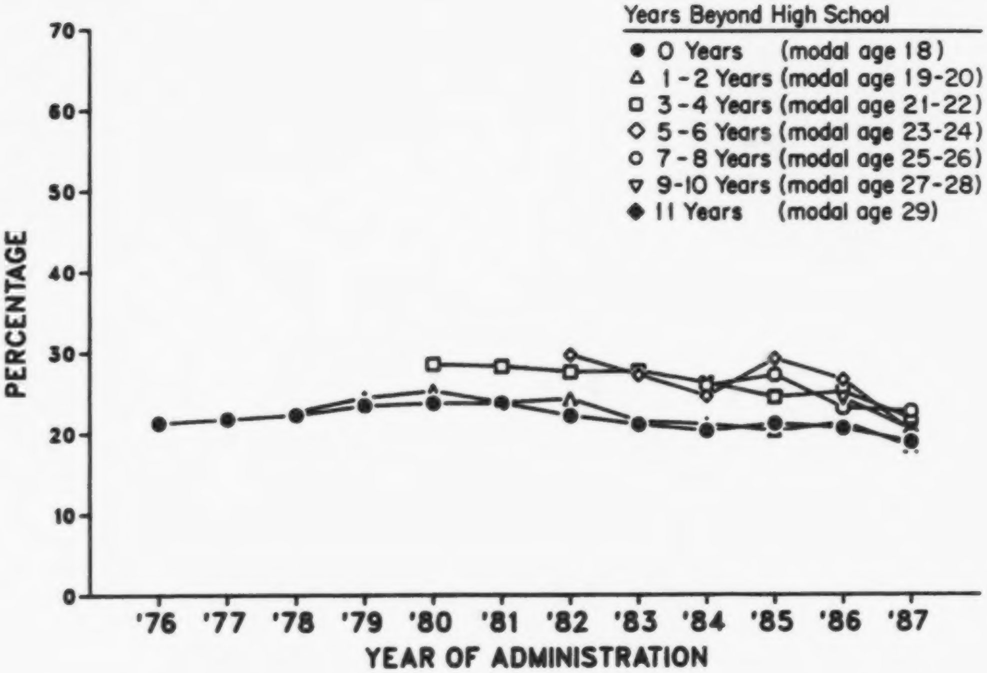


FIGURE 44a

Marijuana: Trends in Annual Prevalence Among Young Adults
by Age Group

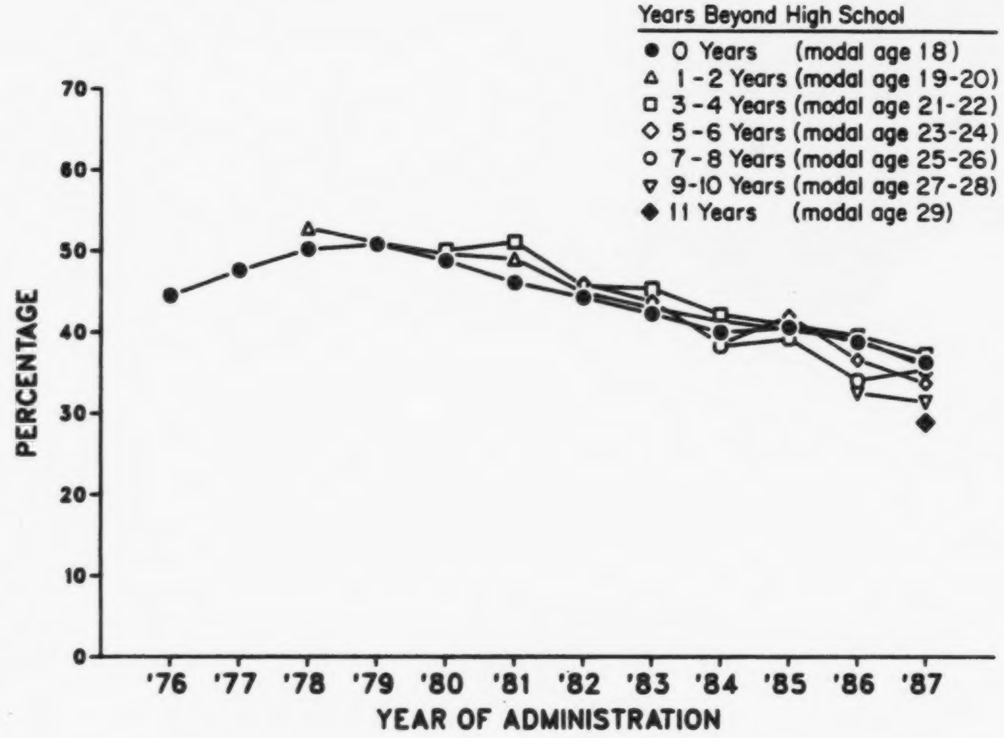
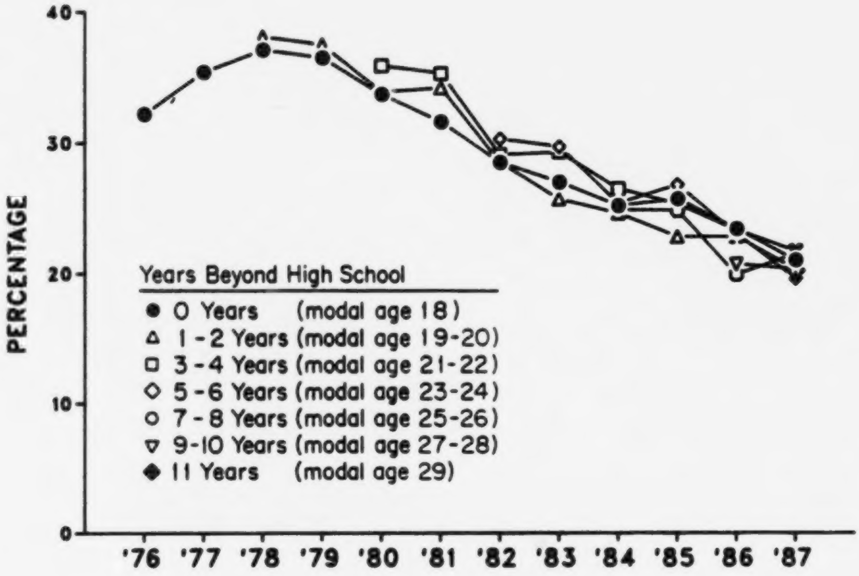


FIGURE 44b

Marijuana: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group



Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults

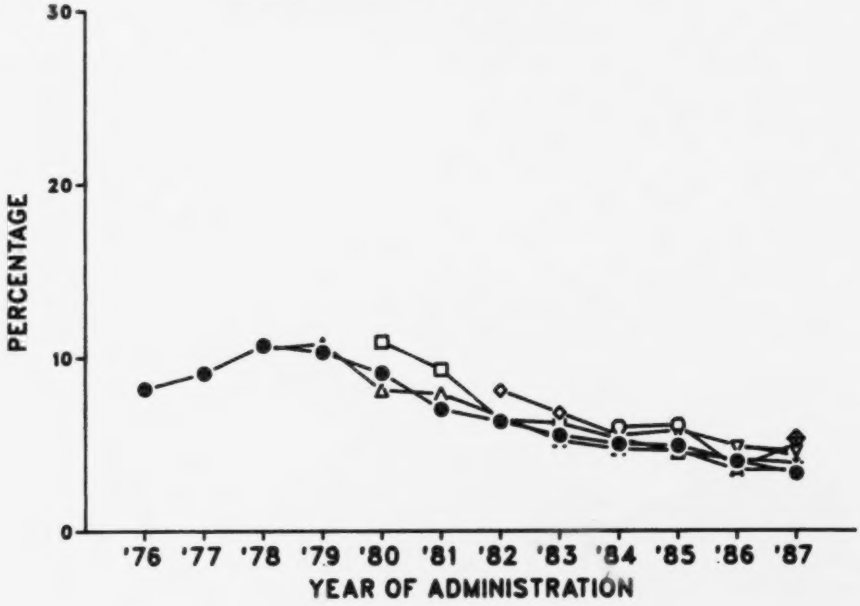


FIGURE 45

LSD: Trends in Annual Prevalence Among Young Adults
by Age Group

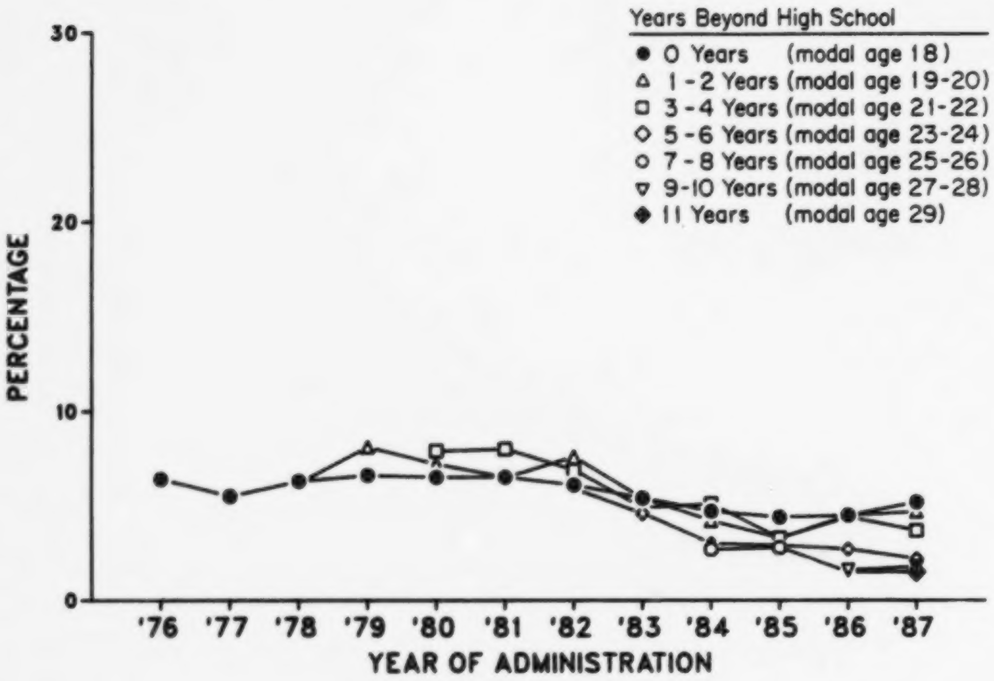


FIGURE 46

Cocaine: Trends in Annual Prevalence Among Young Adults
by Age Group

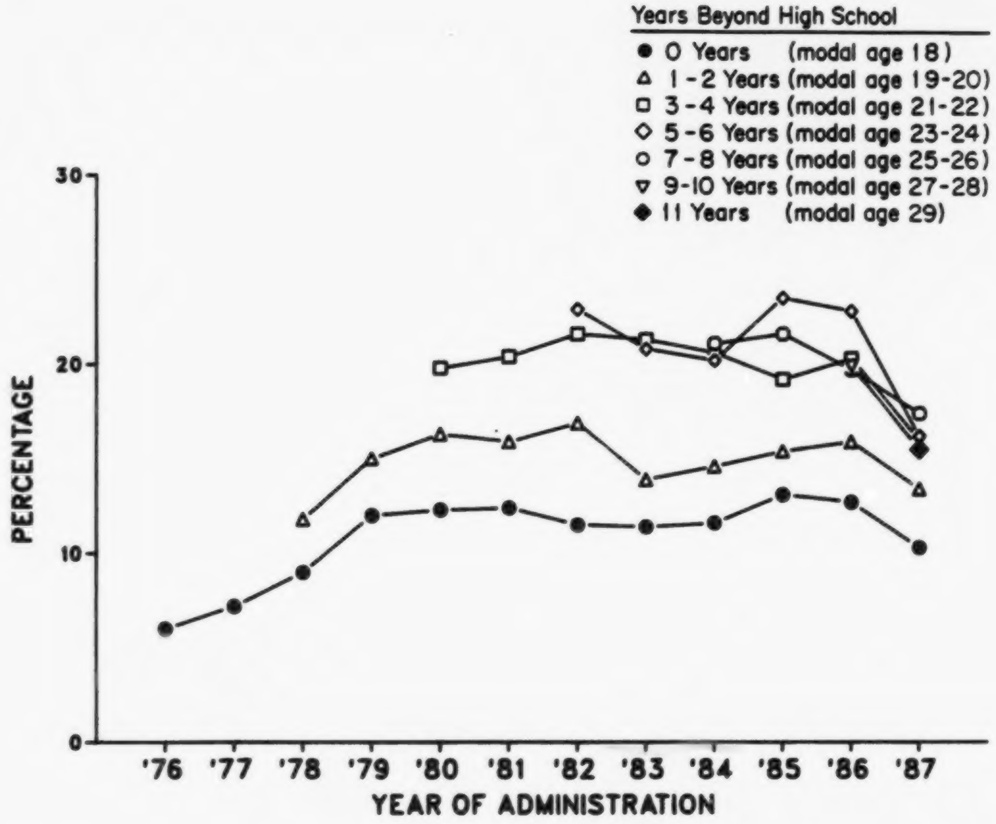


FIGURE 47

Other Opiates: Trends in Annual Prevalence Among Young Adults by Age Group

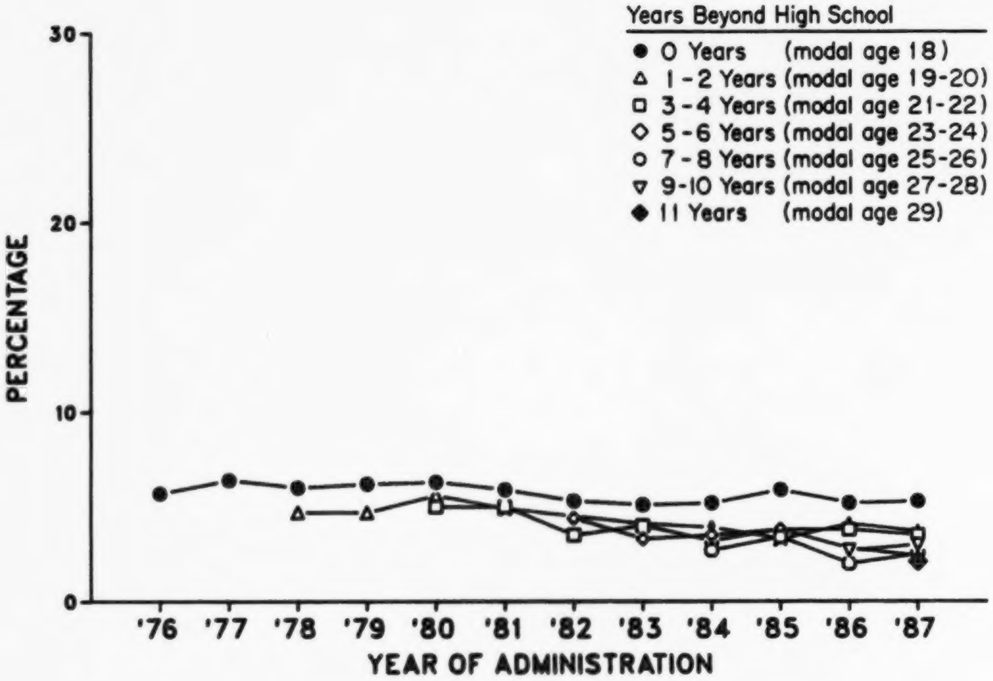
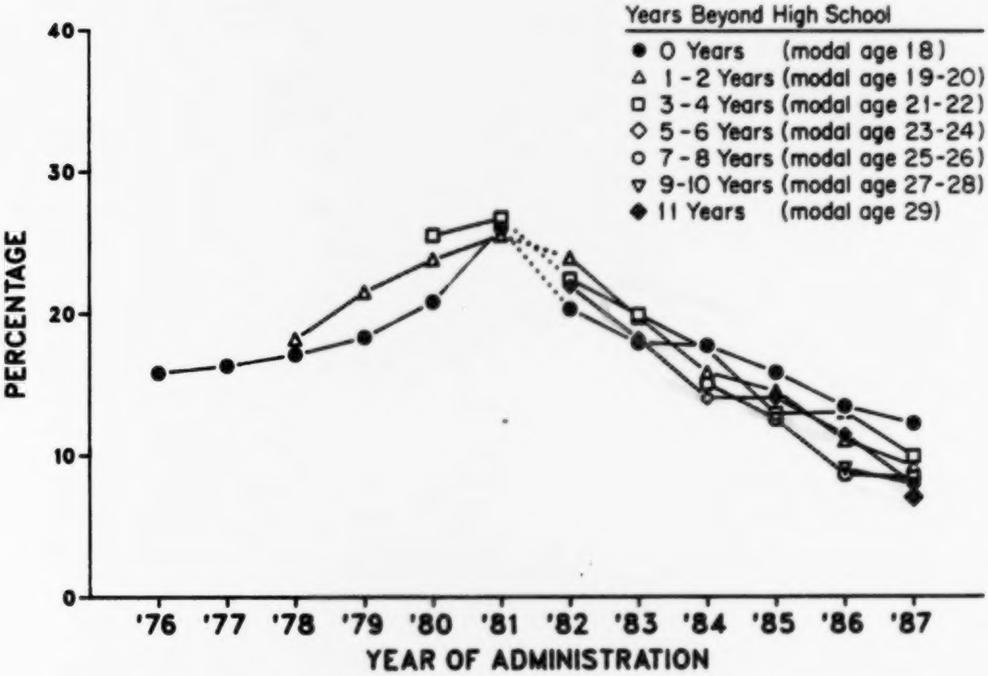


FIGURE 48

Stimulants: Trends in Annual Prevalence Among Young Adults by Age Group



NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 49

Barbiturates: Trends in Annual Prevalence Among Young Adults by Age Group

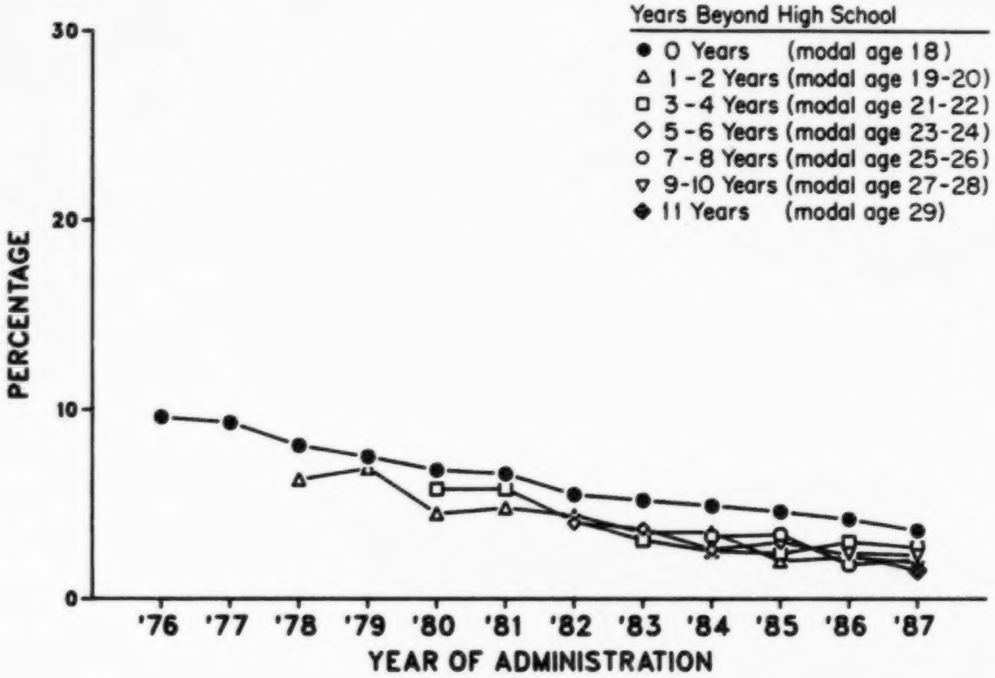


FIGURE 50

Methaqualone: Trends in Annual Prevalence Among Young Adults
by Age Group

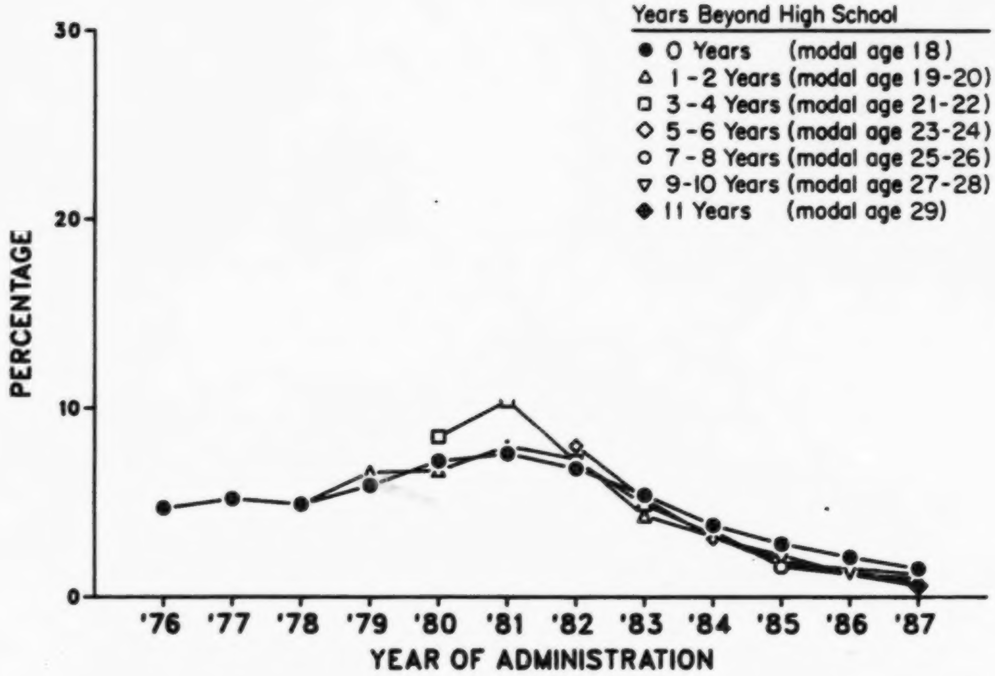


FIGURE 51

Tranquilizers: Trends in Annual Prevalence Among Young Adults
by Age Group

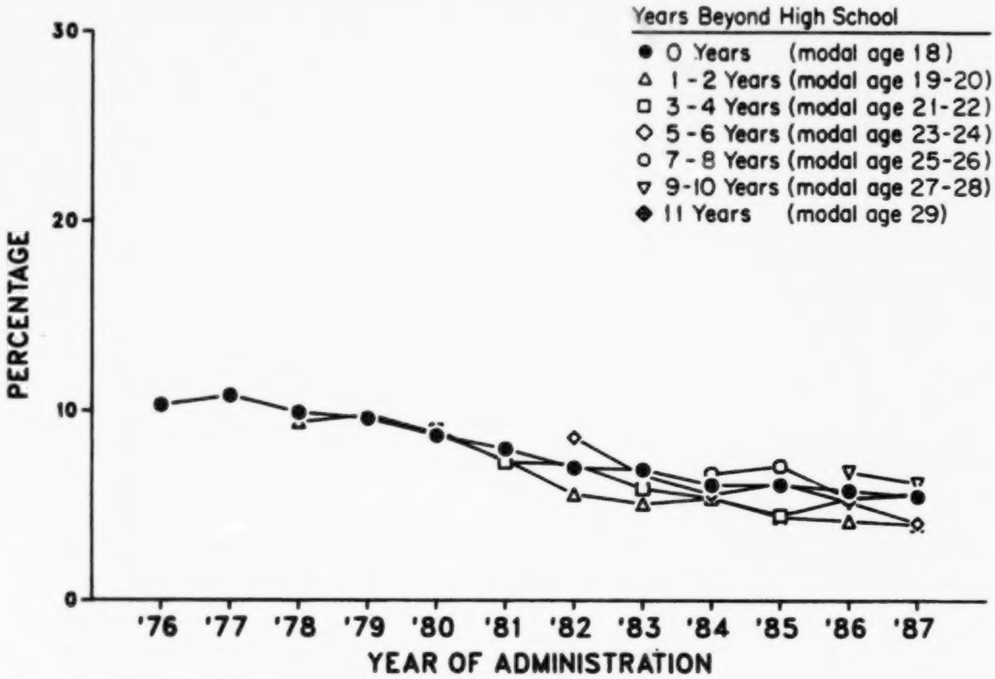


FIGURE 52a

Alcohol: Trends in Annual Prevalence Among Young Adults
by Age Group

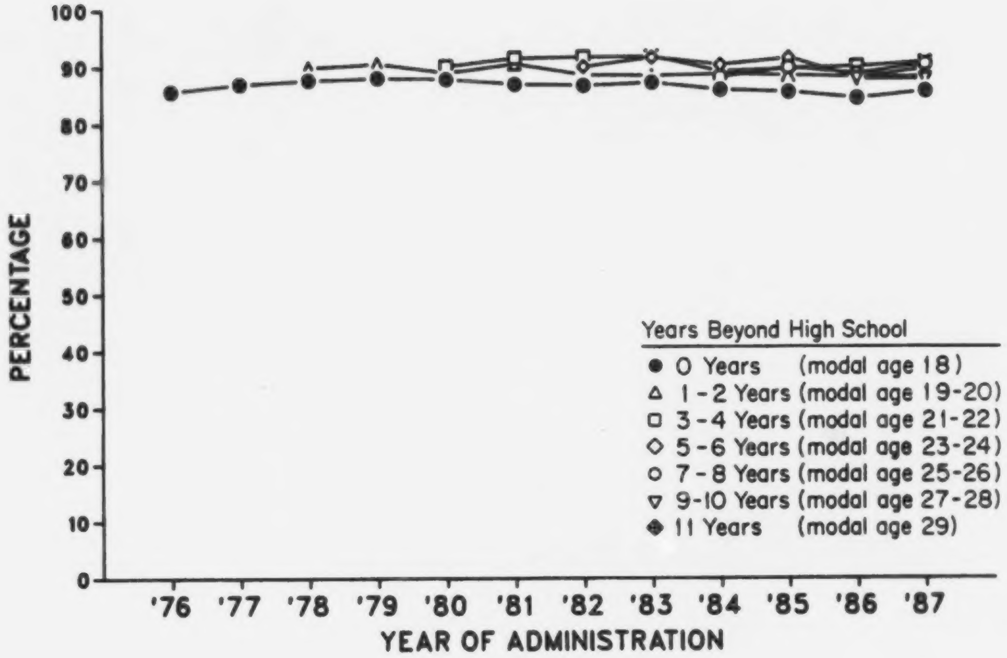
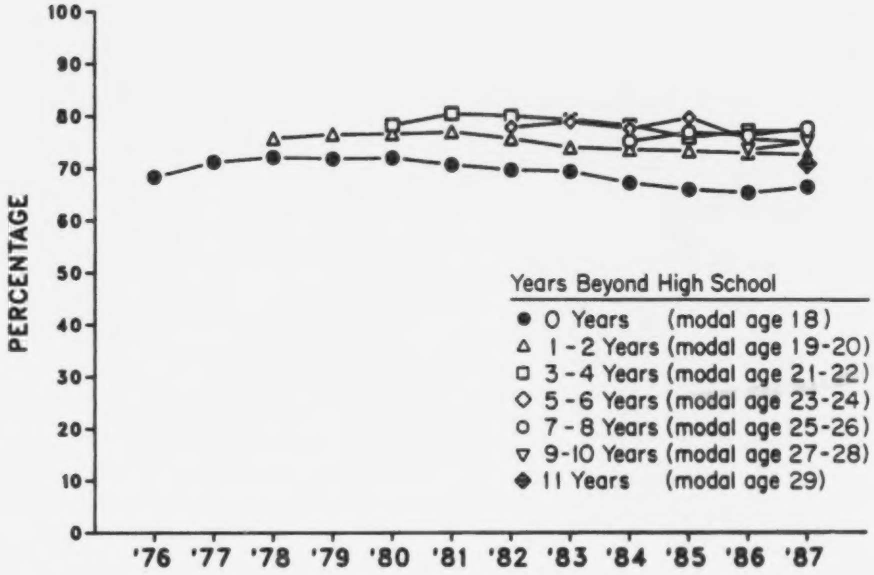


FIGURE 52b

Alcohol: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group



Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among Young Adults

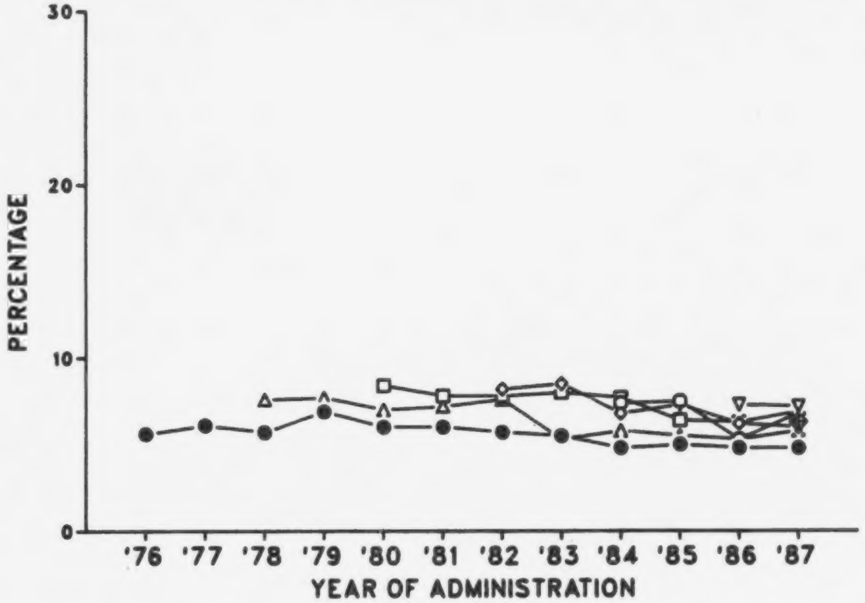


FIGURE 52c

Alcohol: Trends in Two-Week Prevalence of Five or More Drinks in a Row Among Young Adults by Age Group

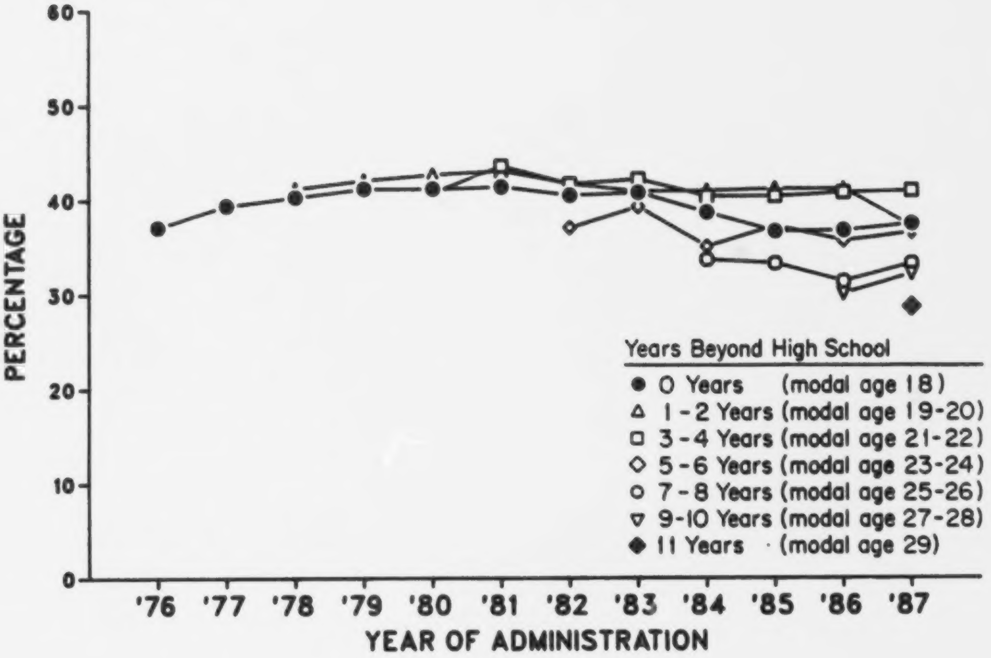
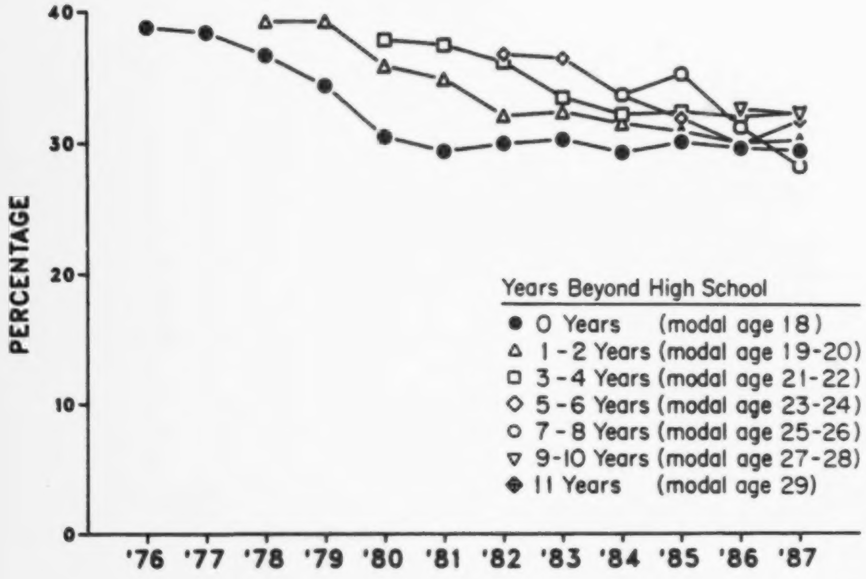


FIGURE 53a

Cigarettes: Trends in Thirty-Day Prevalence Among Young Adults
by Age Group



Cigarettes: Trends in Thirty-Day Prevalence
of Daily Use Among Young Adults

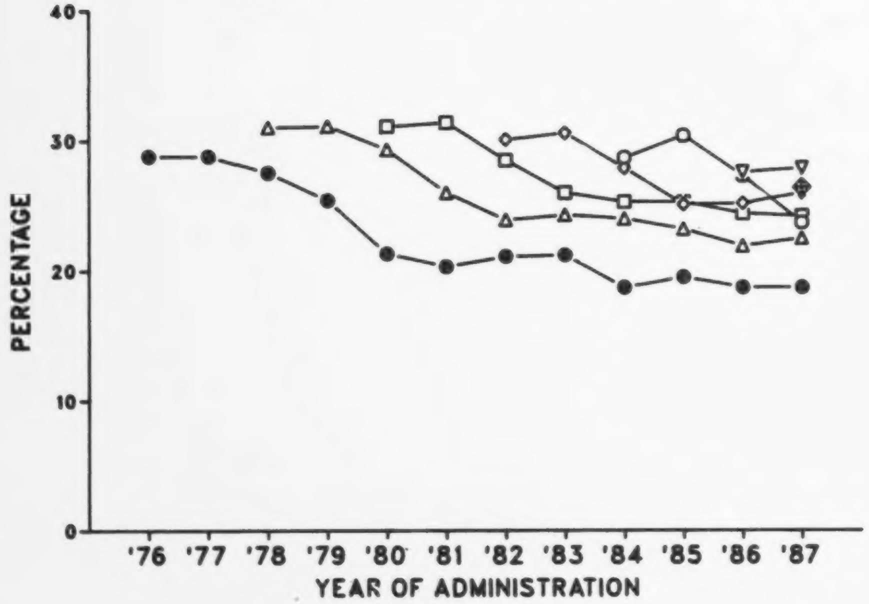
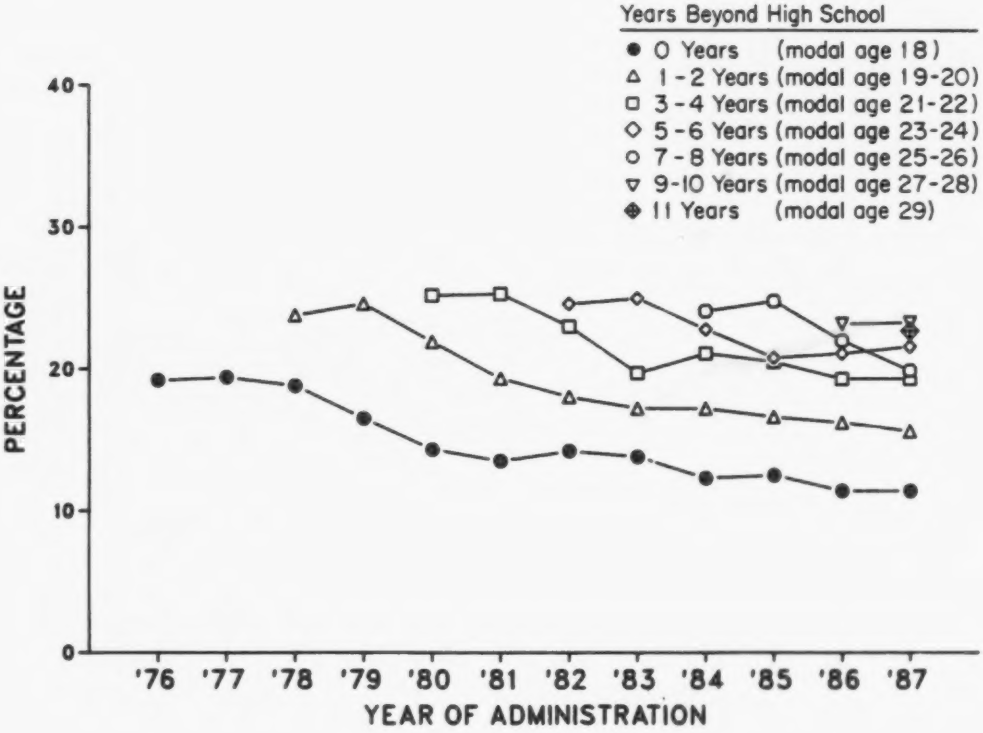


FIGURE 53b

Cigarettes: Trends in Thirty-Day Use of Half-Pack a Day or More Among Young Adults
by Age Group



- Similarly for ***LSD***, the large male-female difference in 1980 for 19 to 22 year olds (10.5% vs. 4.8% annual prevalence) narrowed considerably (5.6% vs. 3.1%), as male use declined by nearly half. A similar thing has happened to the use of ***other hallucinogens*** taken as a class.

- ***Methaqualone*** use also has declined more among males (who started from a distinctly higher level), and both sexes now show low rates of use (1.5% for males aged 19 to 22 and 0.8% for females).

- In 1987 annual ***cocaine*** prevalence dropped by twice as much among male vs. female 19 to 22 year olds (−4.6% vs. −2.3% to 16.3% and 13.4%, respectively), but the drop was about equivalent among those 23 to 26 (−4.8% vs. −4.2% to 21.1% and 13.1%, respectively).

- As ***barbiturate*** use has declined since 1980, sex differences have been eliminated among the 23 to 26 year olds (both have 1.8% annual prevalence in 1987), and the gap narrowed among the 19 to 22 year olds (2.6% for males vs. 2.0% for females in 1987).

- The annual prevalence figures for ***heroin*** appear to have dropped among males in the 19 to 22 year old category since 1980 (from 0.6% to 0.2% in 1987). Rates for females remained very low at 0.2% to 0.3%.

- Both sexes have shown some decline in recent years in the use of ***narcotics other than heroin***, with some narrowing of sex differences, which are now very small.

- Since 1981, rates of ***stimulant*** use have been similar for males and females, and have shown substantial downward trends.

- Both sexes also have reported similar rates of ***tranquilizer*** use since 1980. They both showed a decline through 1985 and a leveling since then among 19 to 22 year olds (4.6% annual prevalence in 1987 for males vs. 4.9% for females). For the slightly older group (23 to 26 year olds), the decline seems to have continued into 1987 (reaching 5.1% and 4.8% annual prevalence for males and females).

- ***Inhalant*** use has remained quite low for both sexes since 1980 among 19 to 22 year olds (though males remain higher and there has been some upward drift in the annual prevalence to 4.6% for males and 2.9% for females in 1987) and has remained even lower among 23 to 26 year olds (1.6% and 0.8% annual prevalence respectively in 1987 without any upward drift).

- For ***alcohol***, annual and 30-day prevalence rates have tended to remain quite stable for both sexes. For ***daily drinking*** there is still a large sex difference in 1987 (9.1% for males vs. 4.2% for females, among the 19 to 22 year olds), but not as large as it was in 1980 (11.5% vs. 4.2%); this is because rates of daily drinking have shown some drop among the males but little or none among the females. ***Occasional heavy drinking*** (five or more drinks in a row at least once in the past two weeks) remained quite constant for both sexes in both age groups.

- Sex differences in ***smoking*** have remained small among the 19 to 22 year olds since 1980 and among the 23 to 26 year olds since 1984 (when the data were first available in each case). Among the younger age band both sexes showed a gradual decline in smoking—males through 1985 and females through 1987. In the 23 to 26 year old age band, the decline continues into 1987 as the senior class cohorts showing the decline (i.e., the classes of 1979, 1980, and 1981) continue to pass through this age band. Usage levels can be predicted to level for both sexes in both age bands, projecting from the leveling of the cohort effect after the class of 1981.

Trend Differences Related to Population Density

- In general, the proportion of young adults using ***any illicit drug*** has been declining in recent years in communities of all sizes. (Recall that five levels of population density are distinguished.) Among 19 to 22 year olds this decline began in 1982 and continues in 1987. The differences have narrowed slightly and about the only difference remaining is that the farm/country stratum has lower use than all of the other strata. The use of ***any illicit drug other than marijuana*** tells an almost identical story.

- ***Marijuana*** use began declining in 1981 or 1982 among the 19 to 22 year olds in all community size categories, and it continues to decline in 1987. Again, the differences narrowed slightly, so that no important differences remain except that the farm/country stratum is lower than all others.

- ***LSD*** use has declined appreciably since 1980 in communities of all sizes among the 19 to 22 year olds. In 1987 annual use is consistently lower among the 23 to 26 year olds (at around 1% to 2% vs. 3% to 5%) though there has only been modest decline since 1984 (the earliest point recorded). The use of ***other hallucinogens*** taken as a class has also fallen across the board.

- The sizeable drop in ***cocaine*** use observed in 1987 was found at all levels of population density in both age bands. The only exception was for farm/country, among the 19 to 22 year olds, where a somewhat earlier decline appears to have occurred. The large cities caught up to the very large cities in annual prevalence by 1985 and have stayed closest among the 19 to 22 year olds (both are at 17.4% in 1987). The medium-sized cities and small-town strata are only slightly lower (at 14.9% and 13.9% respectively) in 1987.

- There have been large drops in ***stimulant*** use in communities of all sizes since 1981 among 19 to 22 year olds—drops which continued in 1987. The absolute and proportional drops have been largest in the very large cities and least in the large city stratum (which still showed a drop from 27% in 1981 to 11% in 1987). The data available in 23 to 26 year olds since 1984 also show large and continuing declines at all levels.

- ***Methaqualone*** use, which in 1981 was rather strongly associated (positively) with population density, has dropped to annual prevalence rates of 2% or below in all size strata for both age bands by 1987. The use of ***barbiturates*** has also fallen to very low rates (3.1% or less annual prevalence) in all size strata for both age bands; but unlike methaqualone it has not shown much correlation with urbanicity.

- ***Tranquilizer*** use among young adults has not been associated with population density either. Among the 19 to 22 year olds it showed a decline in all strata from 1980 to about 1985, and some leveling since.

- Annual ***heroin*** prevalence in 1987 stands at 0.3% or less in all strata for both age bands, and has shown little systematic relationship with urbanicity, although in the early eighties it did tend to be more concentrated in cities than in the small-town and farm/country strata among the 19 to 22 year olds.

- Similarly the annual use of ***narcotics other than heroin*** had some positive association with degree of population density in the early eighties but shows rather little association by 1987, due to a greater decline in use in the various sized city strata.

- While the absolute levels of ***inhalant*** use still remain low, since 1981 there has been a gradual increase among 19 to 22 year olds in all strata (except the very large cities, where it started out highest). There is no systematic association with population density in 1987; across all strata annual prevalence rates change between 3.1% and 4.3%. Among the slightly older 23 to 26 year-old age band, rates have been consistently low in all strata since 1984 (ranging from 0.8% to 1.5% in 1987).

- Regarding ***alcohol*** trends, the overall modest decline in monthly prevalence (among 19 to 22 year olds) between 1981 and 1985 was observed in all strata. However, since then there appears to have been an offsetting gain in the farm/rural stratum (which still ranks lowest at 70% vs. 75% to 77% for all other strata). Between 1982 and 1985 ***daily drinking*** overall fell from 7.7% to 6.0% among the 19 to 22 year olds, and a similar decline was observed in each population density stratum. The decline has been greatest in the very large cities, however, virtually eliminating differences in daily drinking among the strata. There are no meaningful strata differences among 23 to 26 year olds in 1987, either.

There are no consistent differences among the population strata in ***occasions of heavy drinking***, except that the farm/small-town stratum is about 4% to 6% below all of the others (e.g., 34% vs. 39% to 41% in 1987 among 19 to 22 year olds)—a pattern which has held true in previous years.

Chapter 12

ATTITUDES AND BELIEFS ABOUT DRUGS AMONG YOUNG ADULTS

We have observed in the high school senior data some substantial changes in the proportions of students seeing great risk to be associated with the use of particular drugs. Further, the importance of these shifts in attitudes and beliefs to explaining changes in actual drug using behavior has been demonstrated. The question remains, however, whether similar changes are occurring among other age groups. In this chapter we review trends since 1980 among young adults on the same questions asked of seniors with regard to perceived risks and personal disapproval of various kinds of drug use.

PERCEIVED HARMFULNESS OF DRUGS

Table 32 provides trends in the risks perceived to be associated with differing usage levels of the various licit and illicit drugs. These questions are contained in one questionnaire form only, which limits the numbers of follow-up cases rather severely; accordingly, we use four-year age bands for descriptive purposes in order to increase the available sample size (to about 500–600 weighted cases per cell) and thus to improve thee reliability of the estimates. Because of the nature of the design, data are available for a longer period (since 1980) for 19 to 22 year olds than for 23 to 26 year olds (since 1984).

Beliefs in 1987 About Harmfulness Among Young Adults

- As Table 32 illustrates, there are considerable differences in the risks associated with the various drugs, as was true among seniors. In general, the results closely parallel those observed among seniors. (Comparisons can be made with the earlier Table 16.)

- ***Marijuana*** is seen as the least risky of the illicitly used drugs, although there are sharp distinctions made between different levels of use. Perceived risks for both regular and occasional use are lower among the 23–26 year olds than among the 19–22 year olds, and both groups are lower than high school seniors. These differences may well reflect cohort differences in attitudes about this drug.

- For all the ***other illicit drugs*** even experimental use is seen as risky by a large proportion, ranging from a low of around 30% for amphetamines to around 60% for heroin.

- There has generally not been much difference between the two age bands of young adults in the risks they associate with ***LSD, PCP***, or ***cocaine***. The older age respondents are more likely to see

heroin use as dangerous in 1987, but did not in previous years. (This may mean they are getting the message about the risk of AIDS more clearly.) The use of ***amphetamines*** and ***barbiturates*** is slightly more likely to be seen as dangerous by the older respondents than the younger ones 19 to 22, who in turn are more likely than seniors to see them as dangerous.

- The lack of much systematic difference with age in the risks perceived to be associated with ***cocaine*** is particularly interesting, given that active use generally has been much higher for the older age groups. This suggests that the age differences in use result not from differences in beliefs about the dangers of the drug, but rather from differences in environments (i.e., more opportunities, encouragement, acceptance, modeling, etc., for those in the older age bracket). In other words, while perceived risk may set important limits on drug use, environmental factors are also important determinants; and in the case of cocaine, such influences seem to increase during young adulthood.

- As with seniors, only a minority of the young adults see ***occasional heavy drinking*** as dangerous; however, more than three-fourths feel that way about ***daily heavy drinking***.

- About 70% of the young adults perceive regular pack-a-day ***cigarette smoking*** as entailing high risk.

Trends in Perceived Harmfulness Among Young Adults

- All of the important trends observed among seniors in perceived harmfulness can also be seen among young adults. In particular, the risks associated with all levels of ***cocaine*** use rose sharply in 1987, and particularly for experimental and occasional use. As with the seniors, this upward trend began several years earlier for regular cocaine use, but emerged much more recently (in 1986 in this case) in regard to experimental use. (Recall that actual use dropped sharply in all of these age groups in 1987).

- The long-term increase in the perceived risk of ***regular marijuana use*** documented among seniors also occurred among young adults. The proportion of 19 to 22 year olds reporting great risk rose from 44% in 1980 (the first data point available) to 69% in 1987. Among seniors the shift over the same interval was from 50% to 74%. Again, daily marijuana use dropped appreciably during this time in all of these age groups.

- Among seniors there had been a downward shift from 1975 to 1986 in the proportion seeing much risk associated with trying ***heroin***, then a sharp upturn in 1987. It appears that there may have been a similar downward shift among young adults (who in general have been more cautious about heroin than high school seniors), but there has been a definite upturn since 1985 or 1986 in the judged

TABLE 32

Trends in Perceived Harmfulness of Drugs

Young Adults in Modal Age Groups of 19–22 and 23–26

		Percentage saying "great risk"[a]								
Q. *How much do you think people risk harming themselves (physically or in other ways), if they ...*	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Try marijuana once or twice	19–22	8.3	7.8	9.7	9.7	12.8	11.2	13.0	12.9	−0.1
	23–26					*9.6*	*10.0*	*12.4*	*14.5*	*+2.1*
Smoke marijuana occasionally	19–22	14.0	14.2	16.9	16.7	21.6	20.6	22.5	23.0	+0.5
	23–26					*15.8*	*16.3*	*20.9*	*20.7*	*−0.2*
Smoke marijuana regularly	19–22	43.9	47.8	52.4	58.4	62.2	66.8	67.6	69.4	+1.8
	23–26					*52.8*	*57.5*	*59.3*	*65.3*	*+6.0s*
Try LSD once or twice	19–22	44.8	44.4	45.0	44.7	46.0	44.3	47.6	49.4	+1.8
	23–26					*48.3*	*46.9*	*47.9*	*51.5*	*+3.6*
Take LSD regularly	19–22	83.4	85.3	86.2	85.9	84.5	86.4	87.1	85.6	−1.5
	23–26					*89.0*	*86.5*	*88.7*	*90.0*	*+1.3*
Try PCP once or twice	19–22								63.6	
	23–26								*64.8*	
Try cocaine once or twice	19–22	31.5	30.5	33.4	28.7	33.2	33.2	35.5	45.9	+10.4sss
	23–26					*31.4*	*31.2*	*36.0*	*48.0*	*+12.0sss*
Take cocaine occasionally	19–22							53.9	61.3	+7.4s
	23–26							*50.9*	*62.5*	*+11.6sss*
Take cocaine regularly	19–22	65.3	69.4	71.6	75.3	75.2	83.0	82.1	88.0	+5.9ss
	23–26					*75.6*	*76.9*	*83.0*	*88.9*	*+5.9ss*
Try "crack" once or twice	19–22								59.4	
	23–26								*59.1*	
Take "crack" occasionally	19–22								75.0	
	23–26								*70.3*	
Take "crack" regularly	19–22								89.6	
	23–26								*88.0*	
Try heroin once or twice	19–22	57.8	56.8	54.4	52.5	58.7	51.0	55.5	57.9	+2.4
	23–26					*58.2*	*59.2*	*60.8*	*66.5*	*+5.7s*
Take heroin occasionally	19–22	77.5	77.8	73.6	74.5	74.9	73.6	77.2	77.6	+0.4
	23–26					*81.2*	*80.7*	*78.9*	*84.5*	*+5.6s*
Take heroin regularly	19–22	87.2	89.9	87.5	88.6	86.9	90.2	90.7	90.2	−0.5
	23–26					*92.0*	*90.0*	*90.6*	*92.8*	*+2.2*

(Table continued on next page)

TABLE 32 (cont.)

Trends in Perceived Harmfulness of Drugs

Young Adults in Modal Age Groups of 19-22 and 23-26

		Percentage saying "great risk"[a]								
	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Try amphetamines once or twice	19–22	24.5	24.6	27.8	24.8	26.9	23.9	27.1	27.4	+0.3
	23–26					*29.6*	*29.4*	*29.4*	*34.1*	*+4.7*
Take amphetamines regularly	19–22	71.9	69.9	68.3	69.9	68.4	68.4	72.3	72.0	−0.3
	23–26					*75.8*	*77.2*	*75.6*	*78.1*	*+2.5*
Try barbiturates once or twice	19–22	27.6	26.4	30.5	25.4	29.9	25.0	30.7	29.7	−1.0
	23–26					*32.2*	*29.9*	*30.2*	*35.5*	*+5.3*
Take barbiturates regularly	19–22	74.0	73.3	72.7	71.3	71.6	71.7	74.6	73.0	−1.6
	23–26					*77.4*	*77.0*	*74.9*	*79.9*	*+5.0s*
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	19–22	3.0	3.4	3.1	2.3	4.7	3.1	5.4	3.5	−1.9
	23–26					*5.5*	*3.0*	*6.4*	*6.6*	*+0.2*
Take one or two drinks nearly every day	19–22	22.7	22.9	23.2	23.2	25.0	26.3	27.3	26.1	−1.2
	23–26					*27.8*	*27.4*	*26.9*	*30.2*	*+3.3*
Take four or five drinks nearly every day	19–22	71.2	72.7	73.3	72.7	76.2	74.1	74.0	76.5	+2.5
	23–26					*76.7*	*77.9*	*80.1*	*77.2*	*−2.9*
Have five or more drinks once or twice each weekend	19–22	34.2	30.1	33.5	36.6	37.9	40.2	34.6	36.7	+2.1
	23–26					*38.4*	*39.8*	*39.1*	*39.8*	*+0.7*
Smoke one or more packs of cigarettes per day	19–22	66.5	61.7	64.0	62.1	69.1	71.4	70.4	70.6	+0.2
	23–26					*71.1*	*70.1*	*75.7*	*73.6*	*−2.1*
Approx. Wtd. N =	19–22	(590)	(585)	(583)	(585)	(579)	(547)	(581)	(570)	
	23–26					*(540)*	*(512)*	*(545)*	*(531)*	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a] Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

risk of experimental or occasional heroin use. This parallel set of trends may reflect (a) the lesser attention paid to heroin by the media during the late seventies and early eighties than previously, and (b) the subsequent great increase in attention paid to intravenous drug use in the past couple of years because of its role in the spread of AIDS.

- In 1987 there may have been a global shift in concern about the dangers of all forms of illicit drug use, as seniors' concerns increased for the remaining drugs on the list—***amphetamines***, ***barbiturates***, and to a lesser extent ***LSD***. Similar upward shifts occurred between 1985 and 1987 for the young adults.

- With regard to ***occasional heavy drinking*** it may be recalled that among seniors, perceived risk rose from around 1981 to 1985, and then leveled. A very parallel pattern is found among 19 to 22 year olds. (The older age band shows the recent level pattern but data do not exist for enough years to check for an earlier increase in concern.)

- The data available from the young adult samples show rather little change in recent years in the proportions associating great risk with regular smoking. Among 19 to 22 year olds the proportion rose from about 67% in 1980 to 71% in 1985, where it remains in 1987. Seniors have shown roughly the same magnitude of change (from 64% in 1980 to 69% in 1987).

PERSONAL DISAPPROVAL OF DRUG USE

The questions asked of seniors concerning the extent to which they personally disapprove of various drug-using behaviors, are also asked of follow-up respondents (in one of the five questionnaire forms). Trends in the answers of young adults aged 19–22 and 23–26 are contained in Table 33. Comparison data for seniors may be found in Table 17, located in the chapter on high school seniors' attitudes and beliefs about drugs.

Extent of Disapproval by Young Adults in 1987

- In general, the attitudes of young adults related to the various drug-using behaviors, both licit and illicit, are highly similar to those held by seniors. This means that the great majority disapprove of using, or even experimenting with, all of the ***illicit drugs other than marijuana***. For example, regular use of each of the following drugs is disapproved by 96% or more of young adults—***LSD***, ***cocaine***, ***amphetamines***, ***barbiturates***, or ***heroin***. Experimentation with each of these drugs is disapproved by between 80% to 98% of the young adults.

- These attitudes seem to differ little as a function of age, except that experimental use of ***cocaine*** is disapproved by slightly fewer 23 to 26 year olds (80%) than 19 to 22 year olds (82%) or seniors

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(87%). The differences are consistent with age-related differences in actual use, unlike the data on perceived risks discussed earlier.

- Even for ***marijuana***, roughly half of young adults now disapprove experimentation, two-thirds disapprove occasional use, and nearly 90% disapprove regular use. Once again, there is some decline in disapproval as one moves from younger to older age groups. Since current marijuana use is about constant across this age band (but active use *during* high school was higher in the older age groups), these age-related differences in attitudes may reflect a residual effect of cohort differences in attitudes which were formed in high school or earlier.

- Regarding ***alcohol*** use, rates of disapproval for the various patterns of use listed are quite close to those observed among seniors. Seniors are a little more likely to disapprove of experimentation, though the rate of disapproval is very low in all groups. On the question about ***occasional heavy drinking***, disapproval is somewhat higher among the 23 to 26 year olds (who have a lower prevalence of such behavior) than among either the 19 to 22 year olds or the seniors.

- Disapproval for ***cigarette smoking***, at the rate of a pack per day or more, declines slightly with age. Some 74% of the seniors disapprove, compared with 73% of the 19 to 22 year olds, and 70% of the older age band. This age-related difference in disapproval may be explainable by the increase in heavy smoking which occurs after high school. (Interestingly, there is not a corresponding pattern of age-related differences in the perceived ***risks*** of smoking—see Table 32.)

Trends in Disapproval by Young Adults

- There have been some important changes among American young adults in the extent to which they find various drugs acceptable, even for use by adults.

- The largest shift has occurred for ***marijuana***; the proportion of 19 to 22 year olds disapproving even experimenting with it rose from 38% to 53% between 1980 and 1987. Data are available for a shorter period of time for the 23 to 26 year old age band; but they seem to show a slightly different pattern, with disapproval changing less from 1984 (the first data point) to 1986, and then jumping significantly in 1987. Thus, in the last year or so the "age gap" in marijuana disapproval has largely disappeared.

- Among the 19 to 22 year olds it seems that disapproval of ***regular cocaine use*** was rising gradually from 1980 to 1986, from about 92% to 97%, with little further change in 1987. (Both young-adult age bands are now near the ceiling of 100%.) Young adults 19 to 22—also like the seniors—showed a subsequent increase in their

TABLE 33

Trends in Proportions Disapproving of Drug Use

Young Adults in Modal Age Groups of 19–22 and 23–26

Q. *Do you disapprove of people (who are 18 or older) doing each of the following?*	Age Group	Percentage "disapproving"[a]								'86–'87 change
		1980	1981	1982	1983	1984	1985	1986	1987	
Try marijuana once or twice	19–22	38.2	36.1	37.0	42.0	44.1	46.6	51.6	52.8	+1.2
	23–26					*41.2*	*38.6*	*42.6*	*49.1*	*+6.5s*
Smoke marijuana occasionally	19–22	49.6	49.1	51.3	56.0	60.4	62.6	66.7	67.2	+0.5
	23–26					*54.8*	*52.8*	*57.0*	*64.9*	*+7.9ss*
Smoke marijuana regularly	19–22	74.3	77.2	80.0	81.8	84.9	86.7	89.2	88.7	−0.5
	23–26					*80.6*	*81.3*	*83.3*	*87.4*	*+4.1*
Try LSD once or twice	19–22	87.4	84.8	85.9	88.4	88.1	89.1	90.4	90.0	−0.4
	23–26					*87.3*	*87.1*	*87.9*	*89.9*	*+2.0*
Take LSD regularly	19–22	98.2	97.4	97.7	97.6	97.6	98.8	98.5	98.0	−0.5
	23–26					*99.2*	*98.0*	*98.5*	*98.9*	*+0.4*
Try cocaine once or twice	19–22	73.0	69.3	69.9	74.1	72.5	77.6	78.9	82.3	+3.4
	23–26					*70.2*	*70.5*	*72.1*	*80.0*	*+7.9ss*
Take cocaine regularly	19–22	91.6	89.3	91.9	94.5	95.0	96.3	97.0	97.2	+0.2
	23–26					*95.7*	*95.3*	*97.3*	*98.0*	*+0.7*
Try heroin once or twice	19–22	96.3	95.4	95.6	95.2	95.1	96.2	96.8	96.3	−0.5
	23–26					*96.7*	*94.9*	*96.4*	*97.1*	*+0.7*
Take heroin occasionally	19–22	98.6	97.8	98.3	98.3	98.6	98.7	98.3	98.3	0.0
	23–26					*99.2*	*98.2*	*98.8*	*99.1*	*+0.3*
Take heroin regularly	19–22	99.1	98.5	98.6	98.7	98.7	99.1	98.9	98.6	−0.3
	23–26					*99.4*	*98.8*	*99.1*	*99.3*	*+0.2*
Try amphetamines once or twice	19–22	74.5	70.4	68.9	74.0	73.0	75.5	78.9	79.9	+1.0
	23–26					*74.2*	*74.2*	*74.6*	*80.3*	*+5.7s*
Take amphetamines regularly	19–22	94.8	93.3	94.3	93.4	94.9	96.6	96.9	95.1	−1.8
	23–26					*96.6*	*95.9*	*96.6*	*97.0*	*+0.4*
Try barbiturates once or twice	19–22	83.5	82.3	83.8	85.1	85.2	86.1	88.3	87.5	−0.8
	23–26					*83.9*	*84.5*	*84.4*	*89.8*	*+5.4ss*
Take barbiturates regularly	19–22	96.6	95.6	97.3	96.5	96.6	98.1	98.0	97.0	−1.0
	23–26					*98.4*	*98.5*	*97.7*	*98.6*	*+0.9*

(Table continued on next page)

TABLE 33, (cont.)

Trends in Proportions Disapproving of Drug Use

Young Adults in Modal Age Groups of 19-22 and 23-26

		Percentage "disapproving"[a]								
	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	19–22	14.8	14.5	13.9	15.5	15.3	15.4	16.9	16.0	−0.9
	23–26					*17.4*	*16.1*	*13.2*	*17.7*	*+4.5s*
Take one or two drinks nearly every day	19–22	67.8	69.7	71.3	73.3	74.3	71.3	77.4	75.3	−2.1
	23–26					*71.4*	*73.7*	*71.6*	*72.7*	*+1.1*
Take four or five drinks nearly every day	19–22	95.2	93.4	94.6	94.6	94.6	94.8	94.9	95.7	+0.8
	23–26					*96.2*	*95.0*	*95.5*	*96.9*	*+1.4*
Have five or more drinks once or twice each weekend	19–22	57.1	56.1	58.2	61.0	59.7	59.4	60.3	61.6	+1.3
	23–26					*66.2*	*68.3*	*66.5*	*67.5*	*+1.0*
Smoke one or more packs of cigarettes per day	19–22	68.7	68.1	66.3	71.6	69.0	70.5	71.4	72.7	+1.3
	23–26					*69.9*	*68.6*	*67.5*	*69.7*	*+2.2*
Approx. Wtd. N =	19–22	(588)	(573)	(605)	(579)	(586)	(551)	(605)	(587)	
	23–26					*(542)*	*(535)*	*(560)*	*(532)*	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

disapproval of ***experimental use***, with the proportion disapproving going from 73% in 1984 to 82% in 1987. (There was a 3.4% increase in 1987.) There was also an increase over the same period in the 23 to 26 year old age band (from 70% in 1984 to 80% in 1987), but nearly all of it occurred in 1987—a pattern very similar to that exhibited by seniors.

- In 1987 both seniors and the 23 to 26 year old age group showed significant increases in their disapproval for experimenting with all of the other illicit drugs listed—***amphetamines***, ***barbiturates***, ***LSD***,[31] and ***heroin***—apparently reflecting a greater antipathy toward illicit drug use in general. (Among the 19 to 22 year olds there seems to have been a more gradual increase in disapproval for experimental use of amphetamines, barbiturates, and LSD, which began as early as 1981 and continued up to 1986, before leveling. A similar longer term trend can be observed for seniors, as well, but theirs continued into 1987.)

- Attitudes about ***alcohol*** use remain relatively unchanged, although among 19 to 22 year olds there has been some movement toward greater disapproval of ***daily drinking*** and toward greater disapproval of ***occasional heavy drinking***. (Both of these trends are also observed among seniors.)

- Disapproval of ***cigarette smoking*** by adults has risen gradually among 19 to 22 year olds since 1982. Among 23 to 26 year olds the increase is not seen until 1987, following the predicted pattern for cohort effects, though that increase is not large enough to be statistically significant.

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[31] The increase for LSD was not large enough to be statistically significant in the young adult group.

Chapter 13

THE SOCIAL MILIEU FOR YOUNG ADULTS

In an earlier section we addressed the issues of the extent to which high school students are exposed to drug use of various kinds, the relevant norms in their peer groups as they perceive them, and the extent to which they perceive various drugs to be available to them. In this section the same issues are addressed for the young adult population, many of whom are experiencing quite different social environments than during their high school years.

PEER NORMS AS PERCEIVED BY YOUNG ADULTS

Table 34 gives the current status and trends in peer norms for the same two age bands discussed in earlier chapters: namely, 19 to 22 year olds and 23 to 26 year olds. (In subsequent years we will be reporting on older age bands, as well.) Trend data are available from 1980 and 1984, respectively, for these two age bands. The comparable data for seniors were presented in Chapter 9, in Table 20.

Current Perceptions of Friends' Attitudes

- The peer norms reported by these young adults on to eight years past high school are very similar to those reported by high school seniors. That means that for each of the ***illicit drugs other than marijuana*** the great majority think that their close friends would disapprove of their even trying them once or twice (about 90% for ***LSD*** and 81% for ***amphetamines***).

- The majority (about 54%) now think their friends would disapprove of their even trying ***marijuana***, while only two-thirds think they would disapprove of occasional use and over 80% think they would disapprove of regular us of it.

- There appear to be no age-related differences in current norms for the ***illicit drugs other than marijuana***. (However, it should be noted that cocaine is not yet included in the list; it will be in 1988.) For ***marijuana*** the proportion reporting friends' disapproval declines slightly with age.

- Regarding ***alcohol*** use, most say their friends would disapprove if they were daily drinkers (about 69%) or heavy daily drinkers (92%). However, half of the 19 to 22 year olds say their friends would not disapprove of ***heavy weekend drinking***, and 43% of the 23 to 26 year olds say the same.

TABLE 34

Trends in Proportion of Friends Disapproving of Drug Use

Young Adults in Modal Age Groups of 19–22 and 23–26

Q. How do you think your close friends feel (or would feel) about you ...	Age Group	Percentage saying friends disapprove[a] 1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Trying marijuana once or twice	19–22	41.0	40.6	46.9	47.0	51.6	54.5	55.2	54.7	−0.5
	23–26					*47.7*	*47.0*	*49.1*	*53.9*	*+4.8*
Smoking marijuana occasionally	19–22	50.9	49.2	54.0	57.9	59.4	64.6	64.4	65.1	+0.7
	23–26					*54.3*	*56.4*	*57.1*	*63.1*	*+6.0s*
Smoking marijuana regularly	19–22	70.3	75.2	75.7	79.5	80.0	82.7	83.5	84.8	+1.3
	23–26					*77.8*	*78.4*	*80.9*	*82.0*	*+1.1*
Trying LSD once or twice	19–22	87.4	90.5	88.0	89.2	89.3	91.1	90.5	91.8	+1.3
	23–26					*87.4*	*90.8*	*88.6*	*89.8*	*+1.2*
Trying an amphetamine once or twice	19–22	75.8	76.7	75.3	74.3	77.0	79.8	81.5	81.3	−0.2
	23–26					*78.4*	*79.1*	*76.7*	*81.7*	*+5.0s*
Taking one or two drinks nearly every day	19–22	71.9	72.1	68.6	73.5	71.6	72.2	72.7	70.2	−2.5
	23–26					*63.6*	*66.8*	*67.7*	*68.3*	*+0.6*
Taking four or five drinks nearly every day	19–22	93.7	91.7	89.6	91.9	91.6	92.5	91.5	90.8	−0.7
	23–26					*90.8*	*90.2*	*92.5*	*92.8*	*+0.3*
Having five or more drinks once or twice each weekend	19–22	53.5	51.7	51.7	53.3	50.8	53.3	47.0	49.4	+2.4
	23–26					*53.8*	*57.3*	*61.0*	*57.2*	*−3.8*
Smoking one or more packs of cigarettes per day	19–22	75.6	75.1	75.4	78.5	76.2	79.8	77.7	78.6	+0.9
	23–26					*73.8*	*77.4*	*80.3*	*80.5*	*+0.2*
Approx. Wtd. N =	19–22	(569)	(597)	(580)	(577)	(582)	(556)	(577)	(595)	
	23–26					*(510)*	*(548)*	*(549)*	*(540)*	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

These attitudes do differ by age group, though not dramatically. Peer acceptance of light daily drinking seems to increase slightly with age. Disapproval of heavy weekend drinking shows a different pattern: peer disapproval is highest among 23 to 26 year olds (57%), next highest among seniors (52%) and lowest among those 19 to 22 years old (49%)—the age group with the highest prevalence of such behavior.

- Peer disapproval of ***cigarette smoking*** is high in all three age bands, with 74% of seniors saying their friends would disapprove of pack-a-day smoking, 79% of the 19 to 22 year olds, and 81% of the 23 to 26 year olds.

Trends in Peer Norms for Young Adults

- As has been true for seniors, there have been some important changes taking place in the social acceptability among peers of some of these behaviors. (See Table 34.) For example, peer disapproval of ***marijuana*** use has grown substantially, since at least 1980 for the 19 to 22 year olds (e.g. the proportion whose friends would disapprove of even trying marijuana rose from 41% to 55% in 1987). In 1987 the older age band of 23 to 26 year olds closed most of the previous age-related gap in norms, by showing an increase in peer disapproval that year.

- There has been a more gradual drift upward in peer disapproval levels for ***amphetamines***, but nevertheless a movement in a more restrictive direction. ***LSD*** has shown a little change in the same direction; but disapproval rates are already so high that there remains relatively little room for further movement.

- Norms regarding ***alcohol*** use have remained fairly stable.

- Peer norms regarding ***cigarette smoking*** have become more restrictive at all three age levels, but at somewhat different times. Among seniors, peer disapproval rose from 1975 to 1979, but has been fairly stable since. Among 19 to 22 year olds, peer disapproval has risen slightly (from 75% in 1982 to 79% in 1987), probably reflecting some "cohort effects." Among 23 to 26 year olds, there was an increase from 1984 to 1986, again probably reflecting some cohort differences.

EXPOSURE TO DRUG USE BY FRIENDS AND OTHERS

Exposure to drug use is measured by two sets of questions, each appearing on a (different) single questionnaire form. The first asks about proportion of close friends using each drug, the second about how often they have been around people using each of a list of drugs "to get high or for kicks." These are the same questions asked of seniors.

Exposure to Drug Use by Young Adults in 1987

- Relatively high proportions of young adults have at least some friends who use illicit drugs (Table 35). Among 19 to 22 year olds, 77% had friends who use ***some illicit drug***, and 57% had friends who use some ***illicit drug other than marijuana***. Even more of the 23 to 26 year olds report such exposure (81% and 61%). On the other hand, only about 13% of each group say that most or all of their friends use illicit drugs, and only 5% say that most or all use illicits other than marijuana.

- Exposure is greatest, of course, for ***marijuana*** (about three-quarters report some friends using) followed by ***cocaine*** (roughly one-half), ***amphetamines*** (roughly one-third) and "***crack***," specifically (roughly one-quarter). The other illicit drugs have relatively small proportions of friends using ranging from less than 10% for ***PCP*** and ***heroin*** to between 10% and 20% for most of the other drugs.

- For a number of drugs the proportion having friends who use is lower for each higher age group. These include the ***inhalants***, ***nitrites***, specifically, ***LSD***, ***other hallucinogens***, ***PCP***, ***heroin***, ***narcotics other than heroin***, ***amphetamines***, ***barbiturates***, and ***methaqualone***. ***Tranquilizers*** show a more complex pattern, with the 19 to 22 year olds least likely of the three age groups to report having friends who use.

- ***Cocaine***, the one illicit drug we know shows an important increase in active use with age, also shows a slightly higher prevalence of friends' use in the older age groups. Among seniors 44% having some friends who use, among 19 to 22 year olds 46%, and among 23 to 26 year olds 51%. However, the data on being around people who were using at some time in the prior twelve months (see Tables 36 and 22) do not show differences by age.

- In fact, in general it appears that even some of those who have friends who use are not directly exposed to use themselves, judging by the differences in proportions saying they have no friends who use (in Table 35), and the proportions who say they have been around people who were using during the prior year (in Table 36).

- Turning to ***alcohol*** use, the great majority of young adults have at least some friends who ***get drunk at least once a week***, although this differs by age: 86% of the high school seniors, 81% of the 19 to 22 year olds, and 74% of the 23 to 26 year olds. And the proportions who say *most or all* of their friends get drunk once a week differs substantially by age: 31% of the seniors, 21% of the 19 to 22 year olds, and 12% of the 23 to 26 year olds. In terms of direct exposure during the past year to people who were drinking alcohol "to get high or for 'kicks'," such exposure is almost universal in

TABLE 35

Trends in Proportion of Friends Using Drugs

Young Adults in Modal Age Groups of 19–22 and 23–26
(Entries are percentages)

Q. How many friends would you estimate ...	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Smoke marijuana										
% saying none	19–22	11.2	13.6	14.8	16.2	18.4	18.9	21.5	24.7	+3.2
	23–26					*18.0*	*19.2*	*22.3*	*20.6*	*−1.7*
% saying most or all	19–22	34.1	30.6	25.6	20.6	19.4	16.0	13.3	12.5	−0.8
	23–26					*17.0*	*14.3*	*13.7*	*10.4*	*−3.3*
Use inhalants										
% saying none	19–22	88.1	86.8	86.2	87.7	88.3	90.4	89.1	87.3	−1.8
	23–26					*92.3*	*93.3*	*92.8*	*93.9*	*+1.1*
% saying most or all	19–22	0.5	0.4	0.7	0.3	0.5	0.6	0.7	0.7	0.0
	23–26					*0.6*	*0.2*	*0.6*	*0.1*	*−0.5*
Use nitrites										
% saying none	19–22	81.6	84.0	85.8	86.2	91.1	90.1	88.3	86.8	−1.5
	23–26					*89.2*	*92.2*	*92.0*	*92.1*	*+0.1*
% saying most or all	19–22	0.3	0.4	0.9	0.6	0.6	0.6	0.4	0.4	0.0
	23–26					*0.8*	*0.3*	*0.4*	*0.3*	*−0.1*
Take LSD										
% saying none	19–22	69.1	74.1	73.5	77.4	78.4	81.2	81.3	81.8	+0.5
	23–26					*78.5*	*82.8*	*84.6*	*84.1*	*−0.5*
% saying most or all	19–22	1.2	0.8	0.9	1.0	0.6	0.8	0.9	0.6	−0.3
	23–26					*0.8*	*0.5*	*1.0*	*0.2*	*−0.8*
Take other psychedelics										
% saying none	19–22	66.6	74.5	74.9	79.0	79.8	83.4	84.2	85.0	+0.8
	23–26					*79.9*	*83.3*	*86.8*	*86.8*	*0.0*
% saying most or all	19–22	1.5	0.9	1.1	1.2	0.7	1.0	0.7	0.6	−0.1
	23–26					*0.8*	*0.3*	*0.5*	*0.3*	*−0.2*
Use PCP										
% saying none	19–22	75.9	84.7	84.7	87.4	90.5	91.1	89.9	90.3	+0.4
	23–26					*88.4*	*93.2*	*92.6*	*93.1*	*+0.5*
% saying most or all	19–22	0.5	0.3	0.3	0.5	0.7	0.7	0.2	0.1	−0.1
	23–26					*0.6*	*0.0*	*0.4*	*0.0*	*−0.4*
Take cocaine										
% saying none	19–22	49.0	51.1	50.2	53.5	52.4	54.1	51.7	54.3	+2.6
	23–26					*47.6*	*46.8*	*48.4*	*49.3*	*+0.9*
% saying most or all	19–22	7.0	8.6	7.8	6.1	6.3	6.1	6.1	3.3	−2.8s
	23–26					*9.1*	*5.3*	*7.0*	*4.1*	*−2.9s*
Take "crack"										
% saying none	19–22								76.2	
	23–26								*73.6*	
% saying most or all	19–22								0.7	
	23–26								*0.8*	
Take heroin										
% saying none	19–22	89.0	91.9	90.6	92.5	92.9	93.5	91.5	91.5	0.0
	23–26					*93.9*	*95.6*	*95.7*	*93.5*	*−2.2*
% saying most or all	19–22	0.3	0.5	0.1	0.2	0.4	0.6	0.2	0.3	+0.1
	23–26					*0.4*	*0.2*	*0.2*	*0.0*	*−0.2*
Take other narcotics										
% saying none	19–22	77.2	79.6	78.0	82.1	82.6	83.1	85.4	84.6	−0.8
	23–26					*84.0*	*85.1*	*86.0*	*87.0*	*+1.0*
% saying most or all	19–22	0.9	0.7	0.6	0.5	0.8	1.0	0.5	0.4	−0.1
	23–26					*0.4*	*0.3*	*0.7*	*0.0*	*−0.7s*

(Table continued on next page)

TABLE 35 (cont.)

Trends in Proportion of Friends Using Drugs

Young Adults in Modal Age Groups of 19-22 and 23-26
(Entries are percentages)

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Take amphetamines										
% saying none	19-22	45.9	47.8	48.7	50.3	53.9	57.9	61.5	65.5	+4.0
	23-26					*54.4*	*59.9*	*66.5*	*67.9*	*+1.4*
% saying most or all	19-22	3.8	5.7	4.6	3.8	3.3	2.9	1.3	1.9	+0.6
	23-26					*1.9*	*1.8*	*1.7*	*1.2*	*−0.5*
Take barbiturates										
% saying none	19-22	66.8	72.2	72.3	76.4	78.0	82.8	81.2	84.5	+3.3
	23-26					*77.8*	*81.3*	*83.7*	*85.9*	*+2.2*
% saying most or all	19-22	1.1	1.3	1.0	0.8	0.8	0.5	0.3	0.4	+0.1
	23-26					*0.4*	*0.3*	*0.3*	*0.3*	*0.0*
Take quaaludes										
% saying none	19-22	61.7	63.8	64.6	69.5	75.4	80.1	79.7	83.1	+3.4
	23-26					*74.3*	*79.0*	*82.6*	*85.0*	*+2.4*
% saying most or all	19-22	1.9	2.7	1.2	1.3	1.2	0.6	0.2	0.4	+0.2
	23-26					*0.6*	*0.3*	*0.7*	*0.2*	*−0.5*
Take tranquilizers										
% saying none	19-22	62.5	66.1	71.3	77.1	78.0	80.3	79.4	82.0	+2.6
	23-26					*70.7*	*73.7*	*77.7*	*79.2*	*+1.5*
% saying most or all	19-22	0.7	0.9	0.5	0.8	0.3	0.7	0.3	0.6	+0.3
	23-26					*0.4*	*0.3*	*0.5*	*0.0*	*−0.5*
Drink alcoholic beverages										
% saying none	19-22	3.7	3.3	3.4	2.7	3.2	4.2	3.1	4.4	+1.3
	23-26					*3.2*	*3.2*	*3.8*	*4.1*	*+0.3*
% saying most or all	19-22	76.6	77.6	75.2	75.1	74.9	71.9	74.2	71.3	−2.9
	23-26					*73.2*	*74.4*	*69.5*	*74.9*	*+5.4s*
Get drunk at least once a week										
% saying none	19-22	19.1	20.1	20.0	19.6	20.2	23.3	18.0	18.9	+0.9
	23-26					*26.9*	*27.3*	*26.5*	*26.3*	*−0.2*
% saying most or all	19-22	21.9	23.3	22.0	20.2	22.7	21.7	20.8	21.3	+0.5
	23-26					*11.4*	*11.6*	*12.5*	*11.9*	*−0.6*
Smoke cigarettes										
% saying none	19-22	5.6	5.7	6.6	6.9	8.1	8.4	8.9	9.7	+0.8
	23-26					*6.1*	*5.0*	*8.4*	*7.9*	*−0.5*
% saying most or all	19-22	31.8	27.6	25.6	25.2	25.6	22.7	21.9	22.5	+0.6
	23-26					*25.6*	*22.7*	*19.7*	*18.5*	*−1.2*
Take any illicit drug[a]										
% saying none	19-22	9.8	12.0	13.2	15.0	17.7	17.1	19.5	23.3	+3.8
	23-26					*16.4*	*17.3*	*19.7*	*19.1*	*−0.6*
% saying most or all	19-22	34.9	32.7	28.1	22.4	21.9	18.2	16.2	14.0	−2.2
	23-26					*19.6*	*15.4*	*16.2*	*11.7*	*−4.5s*
Take any illicit drug[a] **other than marijuana**										
% saying none	19-22	32.1	32.1	33.3	34.8	39.2	37.9	39.0	42.7	+3.7
	23-26					*36.3*	*36.0*	*41.0*	*38.9*	*−2.1*
% saying most or all	19-22	9.8	12.9	11.8	9.8	9.3	8.6	7.6	5.0	−2.6
	23-26					*10.6*	*6.6*	*8.6*	*5.2*	*−3.4s*
Approx. Wtd. N =	19-22	(576)	(592)	(564)	(579)	(543)	(554)	(579)	(572)	
	23-26					*(527)*	*(534)*	*(546)*	*(528)*	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a] These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all of the drugs listed except cigarettes and alcohol.

these three age groups: 94%, 94%, and 91% respectively. (See Table 36.)

- Nearly all of these three groups also have at least a few friends who ***smoke cigarettes***, with only a very slight increase with age. About a fifth of each group state that most or all of their friends smoke: 21% of the seniors, 23% of the 19 to 22 year olds, and 19% of the 23 to 26 year olds.

Trends in Exposure to Drug Use by Young Adults

- Tables 35 and 36 also give trends in the proportion of friends using and in direct exposure to use; and Tables 21 and 22 presented earlier do the same for seniors. Trends are available for the 19 to 22 year olds since 1980 and for the 23 to 26 year olds since 1984. (Trend data for 27 to 30 year olds will begin in 1988.)

- As we found for seniors, exposure to use pretty much parallels the levels of self-reported use for various drugs among young adults. In recent years that has meant a decreasing number being exposed to ***any illicit drug use*** in general (Table 36), or through their own friendship circle (Table 35).

- This has been largely due to the decrease in exposure to ***marijuana*** use. It is particularly noteworthy that, while 34% of the 19 to 22 year olds in 1980 said *most or all* of their friends used marijuana, only 13% said the same in 1987. Clearly the number of friendship groupings in which marijuana use is widespread has dropped dramatically.

- The proportion exposed to use of ***any illicits other than marijuana***, by way of contrast, did not change much between 1980 and 1986, but in 1987 there was a drop in such exposure in all three age groups. In all three age groups this appears to be due particularly to a drop in exposure to the use of ***cocaine*** and ***amphetamines***, although two of the three age bands also showed a significant drop in exposure to ***barbiturates***, as well.

- They have all showed a longer term decline in exposure to ***barbiturate*** use, as well as the use of ***LSD***, ***other hallucinogens***, ***PCP***, ***amphetamines***, ***methaqualone*** and ***tranquilizers***.

- All of these changes parallel changes in self-reported use by these three age groups, reinforcing our trust in the validity of the self-report data.

- ***Alcohol*** has shown rather little change in either exposure to use, or in proportion of friends using or in proportion having friends who get drunk at least once a week.

- Among seniors the proportion who said they had friends who ***smoked cigarettes*** declined appreciably between 1975 and 1981, about when self-reported use declined, and leveled thereafter. Among 19 to 22 year olds a decline in friends' use was observable between 1980 (or possibly earlier) and 1985, followed by a leveling; and among 23 to 26 year olds such a downturn appeared from 1984 to 1987 (the only years for which data are available). Presumably the leveling will soon occur there as well, as the "cohort effects" move up the age spectrum.

PERCEIVED AVAILABILITY OF DRUGS

Young adults participating in the follow-up survey receive identical questions to those asked of seniors about how difficult they think it would be to get each of the various drugs if they wanted them. The questions are contained in only one of the five questionnaire forms, yielding a weighted sample size for each four-year age band of 500 to 600 cases. The data for the follow-up samples are presented in Table 37, while the data for seniors were presented earlier in Table 23.

Perceived Availability for Young Adults in 1987

- In general, the proportions of young adults in the follow-up age bands who say it would be "fairly easy" or "very easy" to get various of the illicit drugs is highly similar to the proportions of seniors reporting such easy access. This is true for ***marijuana***, ***LSD***, ***PCP***, ***other psychedelics***, ***nitrites***, ***"crack"*** cocaine, ***heroin***, ***other narcotics***, ***amphetamines***, and ***barbiturates***.

- The major exceptions are ***cocaine***, which shows increasing availability with older age groups: 54% of seniors, 65% of 19 to 22 year olds, and 69% of 23 to 26 year olds. Note, however, the high level of availability of this dangerous drug to all these age groups. Even ***crack*** cocaine is seen as available by 41% to 45% of each age group.

- ***Marijuana*** and ***tranquilizers*** also show a very slight increase in availability with age.

- ***Marijuana*** is almost universally available to these age groups, while ***amphetamines*** and ***cocaine*** are available to the majority. ***Barbiturates*** and ***tranquilizers*** are seen as available by about half.

- ***Alcohol*** and ***cigarettes*** are assumed to be available to virtually all young adults in these three age groups, so questions were not even included for these two drugs.

TABLE 36

Trends in Exposure to Drug Use

Young Adults in Modal Age Groups of 19–22 and 23–26

(Entries are percentages)

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Marijuana										
% saying not at all	19–22	20.2	20.2	21.3	27.3	25.9	24.5	27.6	29.5	+1.9
	23–26					*34.7*	*34.0*	*35.9*	*41.0*	*+5.1*
% saying often	19–22	32.6	30.5	30.3	21.1	21.9	20.3	18.6	16.4	−2.2
	23–26					*17.5*	*20.6*	*14.6*	*14.8*	*+0.2*
LSD										
% saying not at all	19–22	82.6	84.2	84.0	86.4	87.2	87.2	89.2	89.1	−0.1
	23–26					*91.7*	*90.6*	*91.2*	*92.7*	*+1.5*
% saying often	19–22	1.4	1.5	1.4	0.6	0.8	0.7	0.5	1.2	+0.7
	23–26					*0.3*	*0.4*	*0.4*	*0.7*	*+0.3*
Other psychedelics										
% saying not at all	19–22	81.7	83.7	83.7	87.5	89.5	89.0	90.8	90.9	+0.1
	23–26					*91.6*	*91.1*	*90.9*	*94.0*	*+3.1s*
% saying often	19–22	1.1	0.9	0.9	0.7	0.8	0.8	0.2	0.8	+0.6
	23–26					*0.1*	*0.3*	*0.5*	*0.6*	*+0.1*
Cocaine										
% saying not at all	19–22	62.4	57.7	56.4	63.4	61.1	60.6	58.5	63.0	+4.5
	23–26					*61.5*	*59.4*	*58.0*	*65.5*	*+7.5s*
% saying often	19–22	5.8	7.6	6.5	4.3	6.5	7.0	5.4	5.2	−0.2
	23–26					*5.3*	*8.5*	*7.0*	*6.0*	*−1.0*
Heroin										
% saying not at all	19–22	95.6	96.7	95.9	97.1	96.9	95.2	97.1	97.1	0.0
	23–26					*97.7*	*96.7*	*96.8*	*97.1*	*+0.3*
% saying often	19–22	0.2	0.3	0.3	0.1	0.2	0.5	0.2	0.1	−0.1
	23–26					*0.0*	*0.7*	*0.3*	*0.6*	*+0.3*
Other narcotics										
% saying not at all	19–22	85.5	85.6	84.7	89.1	87.6	86.3	90.2	87.7	−2.5
	23–26					*91.0*	*87.7*	*90.9*	*90.3*	*−0.6*
% saying often	19–22	0.7	0.5	0.5	0.9	0.7	1.0	0.5	0.4	−0.1
	23–26					*0.4*	*0.5*	*1.3*	*0.8*	*−0.5*
Amphetamines										
% saying not at all	19–22	57.7	51.4	51.6	60.3	58.7	64.1	68.7	73.3	+4.6
	23–26					*67.7*	*69.5*	*70.9*	*79.1*	*+8.2ss*
% saying often	19–22	7.4	9.9	7.7	6.9	5.4	4.4	3.1	3.3	+0.2
	23–26					*3.9*	*3.2*	*2.2*	*3.3*	*+1.1*

(Table continued on next page)

TABLE 36 (cont.)

Trends in Exposure to Drug Use

Young Adults in Modal Age Groups of 19-22 and 23-26

(Entries are percentages)

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Barbiturates										
% saying not at all	19-22	74.4	76.9	78.2	81.7	84.3	85.3	87.2	88.0	+0.8
	23-26					*83.9*	*86.9*	*89.0*	*92.9*	*+3.9s*
% saying often	19-22	2.5	2.8	1.1	1.4	0.7	1.3	0.5	0.7	+0.2
	23-26					*0.7*	*0.9*	*1.7*	*0.8*	*−0.9*
Tranquilizers										
% saying not at all	19-22	70.4	73.1	71.4	80.5	78.8	80.4	83.6	81.5	−2.1
	23-26					*76.9*	*79.0*	*83.1*	*84.1*	*+1.0*
% saying often	19-22	3.2	2.6	1.8	2.1	1.5	1.7	0.9	1.1	+0.2
	23-26					*2.0*	*1.6*	*2.6*	*1.8*	*−0.8*
Alcoholic beverages										
% saying not at all	19-22	5.7	6.2	5.5	6.6	5.8	7.3	6.4	5.6	−0.8
	23-26					*9.7*	*7.3*	*8.6*	*9.4*	*+0.8*
% saying often	19-22	59.6	61.2	62.5	56.6	59.3	61.8	59.9	61.4	+1.5
	23-26					*52.1*	*54.8*	*51.5*	*53.0*	*+1.5*
Any illicit drug[a]										
% saying not at all	19-22	19.4	19.0	18.5	23.5	23.7	22.6	25.4	27.3	+1.9
	23-26					*31.1*	*29.8*	*32.0*	*37.6*	*+5.6s*
% saying often	19-22	34.6	34.0	32.1	24.4	24.4	23.7	21.1	18.9	−2.2
	23-26					*20.7*	*23.3*	*18.5*	*17.4*	*−1.1*
Any illicit drug[a] other than marijuana										
% saying not at all	19-22	43.1	41.6	38.4	45.1	42.9	46.7	46.6	51.5	+4.9
	23-26					*48.5*	*48.1*	*48.5*	*56.4*	*+7.9ss*
% saying often	19-22	11.8	15.6	13.5	11.1	10.7	10.2	8.2	8.1	−0.1
	23-26					*9.0*	*10.4*	*9.3*	*8.5*	*−0.8*
Approx. Wtd. N =	19-22	(582)	(574)	(601)	(569)	(578)	(549)	(591)	(582)	
	23-26					*(533)*	*(532)*	*(557)*	*(529)*	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a] These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

Trends in Perceived Availability for Young Adults

- The major trends in the perceived availability of these drugs to young adults parallel those showed for seniors. ***Marijuana*** has been virtually universally available to all these age groups throughout the historical periods covered by the available data. There has been a slight decrease (of 5%) among seniors since the peak year of 1979, and a slightly larger decrease (of 10%) since 1980 among 19 to 22 year olds, so that now perceived availability is essentially the same for the two groups (85-86% think it would be "fairly easy" or "very easy" to get marijuana).

- ***Cocaine*** availability, on the other hand, has been moving up among all three age groups over the 1985 to 1987 intervals, reaching historic highs in 1987. (Recall that seniors showed a rise in availability in earlier years—from 1975 to 1980—followed by a leveling between 1980 and 1985. Availability appeared to be level during the same latter period among young adults.) It is noteworthy that perceived availability of cocaine increased in all three age bands in 1987—the same year that use actually dropped sharply.

- The trends in ***LSD*** availability have also been parallel. Among seniors there was a drop of about 10% in the mid 1970's and a later 5% drop in the interval 1980 to 1983. The latter drop, at least, is paralleled in the data for 19 to 22 year olds. Since 1983, availability has been fairly level for seniors (until there was a significant increase in 1987), and fairly level for the two older age bands (who did *not* show any increase in availability in 1987).

- ***Other hallucinogens*** taken as a group have shown a continuing decline from 1980 to 1986 among seniors and the 19 to 22 year olds, and the 23 to 26 year olds (for the 1984 to 1986 interval for which data are available).

- ***Heroin*** availability has varied within a fairly narrow range over the life of the study, though all three age groups showed increases in 1986 and 1987—none of which were large enough to reach statistical significance, however.

- The availability of ***narcotics other than heroin*** has remained quite stable over the life of the study in all three age groups.

- The availability of ***amphetamines*** peaked in 1982 for both seniors and 19 to 22 year olds and has been declining gradually since, having fallen by 5% among seniors and 12% among the 19 to 22 year olds. There is no evidence of a drop in availability since 1984 among those 23 to 26 years old.

- ***Barbiturates*** have also shown a decline since about 1981 or 1982 in the two younger groups (by 7% among seniors and 12% among

TABLE 37

Trends in Reported Availability of Drugs

Young Adults in Modal Age Groups of 19-22 and 23-26

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	Percentage saying "fairly easy" or "very easy"[a]								'86-'87 change
		1980	1981	1982	1983	1984	1985	1986	1987	
Marijuana	19-22	95.6	91.0	92.4	89.7	88.3	89.4	87.2	85.9	−1.3
	23-26					*92.4*	*88.8*	*88.8*	*90.3*	*+1.5*
Nitrites	19-22								22.8	
	23-26								*23.1*	
LSD	19-22	39.6	38.4	35.1	31.8	32.7	29.6	30.5	29.9	−0.6
	23-26					*32.7*	*29.1*	*30.0*	*27.5*	*−2.5*
PCP	19-22								21.7	
	23-26								*21.2*	
Some other psychedelic	19-22	42.1	37.7	33.5	31.0	28.9	28.7	26.3	27.5	+1.2
	23-26					*31.8*	*29.6*	*26.4*	*25.6*	*−0.8*
Cocaine	19-22	55.7	56.2	57.2	55.2	56.2	56.9	60.4	65.0	+4.6
	23-26					*63.7*	*67.1*	*65.8*	*69.0*	*+3.2*
"Crack"	19-22								41.9	
	23-26								*44.5*	
Heroin	19-22	18.9	19.4	19.3	16.4	17.2	20.9	21.2	24.4	+3.2
	23-26					*18.6*	*18.1*	*21.0*	*22.3*	*+1.3*
Some other narcotic (including methadone)	19-22	32.7	32.4	30.8	31.0	28.7	34.3	32.6	33.8	+1.2
	23-26					*32.8*	*32.1*	*33.6*	*32.2*	*−1.4*
Amphetamines	19-22	71.7	72.6	73.5	69.7	69.1	69.1	63.1	61.8	−1.3
	23-26					*65.8*	*66.0*	*64.5*	*65.3*	*+0.8*
Barbiturates	19-22	59.5	61.1	56.8	54.2	48.1	52.7	46.8	44.6	−2.2
	23-26					*52.7*	*47.7*	*46.4*	*45.9*	*−0.5*
Tranquilizers	19-22	67.3	62.7	62.0	62.3	52.5	55.6	52.9	50.3	−2.6
	23-26					*60.2*	*54.3*	*54.0*	*56.3*	*+2.3*
Approx. Wtd. N =	19-22	(582)	(601)	(582)	(588)	(559)	(571)	(592)	(581)	
	23-26					*(540)*	*(541)*	*(548)*	*(539)*	

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. A blank cell indicates data not available.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

19 to 22 year olds), and since 1984 (when data were first available) in the older group.

- Finally, ***tranquilizer*** availability has been declining gradually among seniors since the study first began in 1975 (from 72% in 1975 to 49% in 1987). Since 1980, when data were first available for 19 to 22 year olds, availability has been declining more sharply and from a higher level than among seniors, such that previous differences between them in availability have been just about eliminated.

COLLEGE STUDENTS

Chapter 14

PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS

The follow-up design of the Monitoring the Future project is capable of generating an excellent national sample of college students—better in many ways than the more typical design which first samples colleges and then samples students within them, because in the present sample the students are not clustered in a limited number of colleges. Given the much greater diversity in post-secondary institutions than in high schools, the use of a clustered sample would place far greater limitations on sample accuracy at the college level than at the high school level. Further, the absence of dropouts in the high school senior sample should have practically no effect on the college sample, since very few of the dropouts would go on to college.

Perhaps the major limitation of the present design is that it must delimit the college sample to a certain age level. For trend estimation purposes, we have decided to limit the age band to the most typical one for college attendance, i.e., one to four years past high school, which corresponds to the modal ages of 19 to 22 years old. According to statistics from the United States Bureau of the Census,[32] this age should encompass about 85% of all students enrolled in college full-time in 1980. Although extending the age band to be covered by an additional two years would cover 92% of all enrolled college students, it would also reduce by two years the interval over which we could report trend data. Some special analyses conducted earlier indicated that the differences which would have resulted in the 1985 prevalence estimates, for example, under the two definitions were extremely small. The annual prevalence of all drugs except cocaine would shift only about one- or two-tenths of a percent, based on comparisons made in 1985. Cocaine, which has the greatest amount of change with age, would have an annual prevalence rate only 0.8% higher if the six-year age span were covered rather than the four-year age span. Thus, for purposes of estimating all prevalence rates except lifetime prevalence, the four-year and six-year intervals are nearly interchangeable.

On the positive side, controlling the age band (either one to four or one to six years after high school) may be desirable for trend estimation purposes, because it controls for the possibility that the age composition of college students changes much with time. Otherwise, college students characterized in one year would represent a noncomparable segment of the population when compared to college students surveyed in another year.

College students are here defined as those follow-up respondents one to four years past high school who say they were registered as full-time students at the beginning of March in the year in question ***and*** *who say they are enrolled in a two- or four-year college.* Thus, the definition encompasses only those who are one to four years past high school and are active full-time undergraduate college students in the year in question. It excludes those who may previously have been college students or may have already completed college.

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[32] U.S. Bureau of the Census. *Current population reports: Population characteristics, Series P-20, No. 400.* Washington, DC: U.S. Government Printing Office, 1982.

Prevalence rates for college students are provided in Tables 38 to 42. Having statistics for both groups makes it possible to see whether college students are above or below their age peers in terms of their usage rates. (The college-enrolled sample constitutes about 40% of the entire follow-up sample one to four years past high school.) Any difference between the two groups would likely be enlarged if data from the missing high school dropout segment were available. Therefore, any differences observed here are only an indication of the direction and relative size of differences between the college and the entire noncollege-enrolled populations, not an absolute estimate of them.

The findings are presented below.

PREVALENCE OF DRUG USE IN 1987: COLLEGE STUDENTS

- There is rather little difference between those enrolled in college versus high school graduates of the same age (i.e., one to four years past high school) not enrolled in college, in their annual prevalence of ***any illicit drug use*** (40% vs. 41%, respectively), use of ***any illicit drug other than marijuana*** (21% vs. 26%), or use of ***any illicit drug other than marijuana or stimulants*** (18% vs. 21%).

- As Table 39 illustrates, college students are also average for their age group in their annual prevalence rate for ***marijuana*** use (37% vs. 36% for noncollege). However, their rate of current ***daily marijuana use*** is only 2.3% versus 4.6% for their age peers. Recall that a similar large difference in daily use was observable in high school between the college-bound and those not bound for college.

- ***Stimulants*** show the largest absolute difference in annual prevalence among the illicit drugs, 7.2% for college students versus 11.2% for those not in college.

- College students have close to the same rates as their age peers for ***cocaine*** use in general (13.7% annual prevalence vs. 15.4%). Annual use of ***"crack"*** cocaine, however, is distinctly lower among college students than among their noncollege-age peers, 2.0% vs. 4.4%, respectively.

- College students are slightly below their noncollege-age peers in annual usage rates for ***LSD*** (4.0% vs. 4.4%), ***opiates other than heroin*** (3.1% vs. 4.1%), ***barbiturates*** (1.2% vs. 3.1%), and ***tranquilizers*** (3.8% vs. 5.5%).

- Annual ***methaqualone*** use is very low in both groups, though lower among college students (0.8% vs. 1.4%).

- Although both groups give very low levels of self-reported ***heroin*** use, since 1981 annual prevalence has consistently been lower among the college-enrolled than among their age peers not in college.

- Regarding ***alcohol*** use, today's college students have slightly higher annual prevalence compared to their age peers (91% vs. 88%), a higher monthly prevalence (78% vs. 72%), and a slightly lower daily prevalence (6.0% vs. 6.6%). The most important difference, however, lies in the prevalence of ***occasions of heavy drinking*** (five or more drinks in a row in the past two weeks), which is 43% among college students, versus 36% among their age peers. Thus college students participate in more of what is probably heavy weekend drinking, even though they are a little less likely to drink on a daily basis.

- By far the largest difference between college students and others their age occurs for ***cigarette smoking***. For example, their prevalence of daily smoking is only 14% vs. 30% for all high school graduates that age who are currently not in college. Smoking at the rate of half-a-pack a day stands at 8% vs. 24% for these two groups, respectively—a three-to-one ratio. Recall that the high school senior data show the college-bound to have much lower smoking rates in high school than the noncollege-bound: thus these substantial differences observed at college age actually preceded college attendance.[33]

SEX DIFFERENCES IN PREVALENCE AMONG COLLEGE STUDENTS

Tabular data are provided for male and female college students separately in Tables 38 to 42.

- It may be seen that most of the sex differences among college students replicate those discussed earlier for all young adults (one to ten years past high school), which in turn replicated sex differences in high school for the most part. That means that among college students, males have higher annual prevalence rates for most drugs, with the largest proportional differences for ***marijuana*** (41% vs. 34%), ***LSD*** (5.5% vs. 2.9%), ***cocaine*** (15.8% vs. 12.1%), ***opiates other than heroin*** (4.2% vs. 2.3%), and ***barbiturates*** (1.7% vs. 0.8%).

- There has been no consistent sex difference for ***tranquilizers*** over past years, nor for ***stimulants*** in recent years (the 1987 annual prevalence for both sexes is 7% for stimulant use).

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[33] Bachman, J.G., O'Malley, P.M., and Johnston, L.D. (1984). Drug use among young adults: The impacts of role status and social environments. *Journal of Personality and Social Psychology*, 47, 629–645.

TABLE 38

Lifetime Prevalence[d] for Fourteen Types of Drugs: Full-Time College Students vs. Others

Among Respondents 1-4 Years Beyond High School

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	55.8	60.7	59.8	60.2	52.8	61.2
Inhalants[e]	13.2	13.5	15.7	16.3	11.4	11.1
LSD	8.0	11.8	9.9	14.7	6.6	9.4
Cocaine	20.6	24.4	23.6	26.4	18.4	22.6
"Crack"[a]	3.3	8.2	4.1	9.7	2.6	7.0
Heroin	0.6	1.2	0.6	1.7	0.5	0.8
Other opiates[b]	7.6	10.4	9.2	11.3	6.4	9.7
Stimulants, Adjusted[b,c]	19.8	29.1	18.0	28.4	21.2	29.6
Sedatives[b]	6.1	12.9	6.4	13.5	5.8	12.3
Barbiturates[b]	3.5	9.4	3.9	10.2	3.3	8.7
Methaqualone[b]	4.1	8.0	4.0	8.6	4.2	7.6
Tranquilizers[b]	8.7	13.8	9.0	13.0	8.5	14.5
Alcohol	94.1	93.4	95.6	93.3	93.1	93.5
Cigarettes	NA	NA	NA	NA	NA	NA
Approx. Wtd. N =	(1220)	(1660)	(520)	(760)	(700)	(900)

NOTE: NA indicates data not available.

[a] This drug was asked about in two of the five questionnaire forms. N is two-fifths of N indicated.

[b] Only drug use that was not under a doctor's orders is included here.

[c] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription stimulants.

[d] Data are uncorrected for cross-time inconsistencies in the answers.

[e] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

TABLE 39

Annual Prevalence for Fourteen Types of Drugs: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	37.0	36.1	41.2	38.1	33.8	34.5
Inhalants[d]	3.7	3.6	4.6	4.7	3.1	2.7
LSD	4.0	4.4	5.5	5.7	2.9	3.2
Cocaine	13.7	15.4	15.8	16.9	12.1	14.3
"Crack"[a]	2.0	4.4	2.8	4.3	1.4	4.6
Heroin	0.2	0.3	0.2	0.3	0.2	0.4
Other opiates[b]	3.1	4.1	4.2	4.4	2.3	3.8
Stimulants, Adjusted[b,c]	7.2	11.2	7.1	11.5	7.3	11.0
Sedatives[b]	1.7	3.6	2.2	3.9	1.3	3.4
Barbiturates[b]	1.2	3.1	1.7	3.3	0.8	3.0
Methaqualone[b]	0.8	1.4	0.9	2.0	0.8	0.9
Tranquilizers[b]	3.8	5.5	3.7	5.2	3.8	5.7
Alcohol	90.9	88.3	92.7	88.9	89.6	87.8
Cigarettes	NA	NA	NA	NA	NA	NA
Approx. Wtd. N =	(1220)	(1660)	(520)	(760)	(700)	(900)

NOTE: NA indicates data not available.

[a] This drug was asked about in two of the five questionnaire forms. N is two-fifths of N indicated.

[b] Only drug use that was not under a doctor's orders is included here.

[c] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription stimulants.

[d] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

TABLE 40

Thirty-Day Prevalence for Fourteen Types of Drugs: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	20.3	21.4	23.4	24.8	18.0	18.6
Inhalants[d]	0.9	0.9	0.9	1.1	0.9	0.8
LSD	1.4	1.6	1.8	2.3	1.1	0.9
Cocaine	4.6	5.8	4.8	6.2	4.4	5.4
"Crack"[a]	0.4	1.9	0.8	1.1	0.1	2.4
Heroin	0.1	0.1	0.0	0.0	0.2	0.1
Other opiates[b]	0.8	1.0	1.0	1.1	0.7	1.0
Stimulants, Adjusted[b,c]	2.3	4.5	2.2	4.6	2.3	4.5
Sedatives[b]	0.6	1.2	0.7	1.5	0.5	0.9
Barbiturates[b]	0.5	1.0	0.7	1.2	0.3	0.8
Methaqualone[b]	0.2	0.4	0.1	0.5	0.2	0.2
Tranquilizers[b]	1.0	1.8	0.9	1.3	1.2	2.3
Alcohol	78.4	72.0	80.9	77.1	76.6	67.8
Cigarettes	24.0	36.0	22.1	34.4	25.4	37.3
Approx. Wtd. N =	(1220)	(1660)	(520)	(760)	(700)	(900)

NOTE: NA indicates data not available.

[a] This drug was asked about in two of the five questionnaire forms. N is two-fifths of N indicated.

[b] Only drug use that was not under a doctor's orders is included here.

[c] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[d] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

TABLE 41

Daily Prevalence for Marijuana, Cocaine, Stimulants, Alcohol, and Cigarettes: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	2.3	4.6	3.1	7.4	1.7	2.3
Cocaine	0.1	0.2	0.1	0.2	0.0	0.1
Stimulants, Adjusted[a,b]	0.1	0.4	0.1	0.4	0.0	0.4
Alcohol						
Daily	6.0	6.6	8.8	9.3	3.9	4.4
5+ drinks in a row in past 2 weeks	42.8	36.2	53.5	47.3	34.7	27.0
Cigarettes						
Daily (any)	13.9	29.6	12.8	28.7	14.7	30.3
Half-pack or more per day	8.2	23.7	8.1	23.9	8.3	23.5
Approx. Wtd. N =	(1220)	(1660)	(520)	(760)	(700)	(900)

NOTE: The illicit drugs not listed here showed a daily prevalence of less than 0.05% in all groups.

[a] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription stimulants.

[b] Only drug use that was not under a doctor's orders is included here.

TABLE 42

Annual and Thirty-Day Prevalence of an Illicit Drug Use Index: Full-Time College Students vs. Others

Among Respondents 1–4 Years Beyond High School

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
	Percent reporting use in last twelve months					
Any illicit drug	40.1	41.1	43.3	41.8	37.7	40.6
Any illicit drug other than marijuana	21.3	25.7	23.5	26.4	19.6	25.2
Any illicit drug other than marijuana or stimulants	18.3	21.2	20.8	22.3	16.4	20.3
	Percent reporting use in last thirty days					
Any illicit drug	22.4	24.3	24.0	26.6	21.1	22.5
Any illicit drug other than marijuana	8.8	12.0	9.0	12.3	8.5	11.7
Any illicit drug other than marijuana or stimulants	7.1	9.2	7.4	9.7	6.8	8.8
Approx. Wtd. N =	(1220)	(1660)	(520)	(760)	(700)	(900)

- Males traditionally have had higher prevalence rates on ***methaqualone***, but both sexes are now so close to zero that the absolute differences are now negligible (0.9% vs. 0.8% for females).

- As is true for the entire young adult sample, substantial sex differences are to be found in ***daily marijuana use*** (3.1% for males vs. 1.7% for females), ***daily alcohol use*** (8.8% vs. 3.9%), and occasions of drinking ***five or more drinks in a row*** in the prior two weeks (54% vs. 35%).

- The one drug-using behavior which has shown a sex difference appreciably different from those observed in the sample of all young adults involves ***cigarette smoking***. While the not-in-college segment of this age group has consistently shown little or no sex difference in smoking rates in recent years, among college students there *has* been a consistent and appreciable sex difference in smoking, with college women more likely to smoke. (A glance ahead at Figures 66a to 66c in the next chapter shows the consistent sex difference among college students prior to 1987.) In 1987 the difference appeared to narrow—possibly due to random fluctuation caused by the limited sample sizes. (The increase in smoking among males was not statistically significant.) The male-female difference among those not in college enlarged some as noncollege females showed a decline (again, not statistically significant). As a result, in 1987 there is not such an appreciable difference in the sex ratios of the two groups; whether this is due to a fundamental shift in the relationship, or (more likely) to random sample fluctuation, remains to be seen.

Chapter 15

TRENDS IN DRUG USE AMONG COLLEGE STUDENTS

Since the drug-using behaviors of American college students in the late 1960's and early 1970's represented the beginning of what was to become an epidemic of illicit drug use in the general population, it is interesting and important to note what has happened to those behaviors among college students in recent years.

In this section we continue to use the definition of college students as high school graduates one to four years past high school who are enrolled full time in a two-year or four-year college at the beginning of March in the year in question. For comparison purposes we also provide trend data on the remaining respondents who are also one to four years past high school. (See Figures 54 through 66.) Because the rate of college enrollment declines steadily with number of years beyond high school, the comparison group is slightly older on the average than the college-enrolled group. However, this should influence the comparisons of the college-enrolled with the other group rather little, since age effects in this age range are rather small.

It should also be remembered that the difference between the enrolled and other group shows the degree to which college students are above or below average for other high school *graduates* in this age band. Were we able to include the high school dropout segment in the "other" calculation, any differences with the college-enrolled would probably be accentuated.

For each year there are approximately 1100–1200 respondents constituting the college student sample (see Table 46 for N's per year) and roughly 1800 respondents constituting the "other" group one to four years past high school. Comparisons of the trends since 1980 for in these two groups are given below. (It was not until 1980 that enough follow-up years had accrued to characterize young people one to four years past high school.)

TRENDS IN PREVALENCE 1980–1987: COLLEGE STUDENTS

- The proportion of college students using ***any illicit drug*** in the prior year dropped steadily from 1980 to 1984 (from 56% to 45%), followed by a leveling from 1984 to 1986, and then a significant decline from 45% to 40% between 1986 and 1987. (See Table 46 and Figure 54.) ***Marijuana*** use has shown a similar pattern (see Table 43), and in both cases the trend curves have been almost identical for both college students and those not enrolled in college (see Figures 54 and 57a).

TABLE 43

Trends in Annual Prevalence of Fourteen Types of Drugs
Among College Students 1-4 Years Beyond High School

	Percent who used in last twelve months								
	1980	1981	1982	1983	1984	1985	1986	1987	'86-'87 change
Approx. Wtd. N =	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	
Marijuana	51.2	51.3	44.7	45.2	40.7	41.7	40.9	37.0	−3.9s
Inhalants[b]	3.0	2.5	2.5	2.8	2.4	3.1	3.9	3.7	−0.2
LSD	6.0	4.6	6.3	4.3	3.7	2.2	3.9	4.0	+0.1
Cocaine	16.8	16.0	17.2	17.3	16.3	17.3	17.1	13.7	−3.4s
"Crack"[c]	NA	NA	NA	NA	NA	NA	1.3	2.0	+0.7
Heroin	0.4	0.2	0.1	0.0	0.1	0.2	0.1	0.2	+0.1
Other Opiates[a]	5.1	4.3	3.8	3.8	3.8	2.4	4.0	3.1	−0.9
Stimulants[a]	22.4	22.2	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	NA	NA	21.1	17.3	15.7	11.9	10.3	7.2	−3.1ss
Sedatives[a]	8.3	8.0	8.0	4.5	3.5	2.5	2.6	1.7	−0.9
Barbiturates[a]	2.9	2.8	3.2	2.2	1.9	1.3	2.0	1.2	−0.8
Methaqualone[a]	7.2	6.5	6.6	3.1	2.5	1.4	1.2	0.8	−0.4
Tranquilizers[a]	6.9	4.8	4.7	4.6	3.5	3.6	4.4	3.8	−0.6
Alcohol	90.5	92.5	92.2	91.6	90.0	92.0	91.5	90.9	−0.6
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This drug was asked about in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] This drug was asked about in one of the five questionnaire forms in 1986 (N is one-fifth of N indicated), and in two of the five questionnaire forms in 1987 (N is two-fifths of N indicated).

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 44

Trends in Thirty-Day Prevalence of Fourteen Types of Drugs
Among College Students 1–4 Years Beyond High School

	Percent who used in last thirty days								
	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Approx. Wtd. N =	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	
Marijuana	34.0	33.2	26.8	26.2	23.0	23.6	22.3	20.3	−2.0
Inhalants[b]	1.5	0.9	0.8	0.7	0.7	1.0	1.1	0.9	−0.2
LSD	1.4	1.4	1.7	0.9	0.8	0.7	1.4	1.4	0.0
Cocaine	6.9	7.3	7.9	6.5	7.6	6.9	7.0	4.6	−2.4s
"Crack"[c]	NA	NA	NA	NA	NA	NA	NA	0.4	NA
Heroin	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	+0.1
Other Opiates[a]	1.8	1.1	0.9	1.1	1.4	0.7	0.6	0.8	+0.2
Stimulants[a]	13.4	12.3	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	NA	NA	9.9	7.0	5.5	4.2	3.7	2.3	−1.4s
Sedatives[a]	3.8	3.4	2.5	1.1	1.0	0.7	0.6	0.6	0.0
Barbiturates[a]	0.9	0.8	1.0	0.5	0.7	0.4	0.6	0.5	−0.1
Methaqualone[a]	3.1	3.0	1.9	0.7	0.5	0.3	0.1	0.2	+0.1
Tranquilizers[a]	2.0	1.4	1.4	1.2	1.1	1.4	1.9	1.0	−0.9
Alcohol	81.8	81.9	82.8	80.3	79.1	80.3	79.7	78.4	−1.3
Cigarettes	25.8	25.9	24.4	24.7	21.5	22.4	22.4	24.0	+1.6

NOTES: Level of significance of difference between the two most recent years:
s = .05. ss = .01, sss = .001.
NA indicates data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This question was asked in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] This question was asked in two of the five questionnaire forms. N is two-fifths of N indicated.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

TABLE 45

Trends in Thirty-Day Prevalence of Daily Use of Fourteen Types of Drugs
Among College Students 1-4 Years Beyond High School

	Percent who used daily in last thirty days								
	1980	1981	1982	1983	1984	1985	1986	1987	'86–'87 change
Approx. Wtd. N =	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	
Marijuana	7.2	5.6	4.2	3.8	3.6	3.1	2.1	2.3	+0.2
Inhalants[b]	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
LSD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocaine	0.2	0.0	0.3	0.1	0.4	0.1	0.1	0.1	0.0
"Crack"[c]	NA	NA	NA	NA	NA	NA	NA	0.0	NA
Heroin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Opiates[a]	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Stimulants[a]	0.5	0.4	NA	NA	NA	NA	NA	NA	NA
Stimulants, Adjusted[a,d]	NA	NA	0.3	0.2	0.2	0.0	0.1	0.1	0.0
Sedatives[a]	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Barbiturates[a]	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Methaqualone[a]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tranquilizers[a]	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Alcohol									
Daily	6.5	5.5	6.1	6.1	6.6	5.0	4.6	6.0	+1.4
5+ drinks in a row in last 2 weeks	43.9	43.6	44.0	43.1	45.5	44.6	45.0	42.8	−2.2
Cigarettes									
Daily	18.3	17.1	16.2	15.3	14.7	14.2	12.7	13.9	+1.2
Half-pack or more per day	12.7	11.9	10.5	9.6	10.2	9.4	8.3	8.2	−0.1

NOTES: Level of significance of difference between the two most recent years:
s =.05, ss =.01, sss =.001.
NA indicated data not available.

[a] Only drug use which was not under a doctor's orders is included here.

[b] This question was asked in four of the five questionnaire forms. N is four-fifths of N indicated.

[c] This question was asked in two of the five questionnaire forms. N is two-fifths of N indicated.

[d] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription stimulants.

TABLE 46

Trends in Annual and Thirty-Day Prevalence of An Illicit Drug Use Index

Among College Students 1-4 Years Beyond High School
by Sex

	1980[a]	1981[a]	1982	1983	1984	1985	1986	1987	'86–'87 change
	Percent reporting use in last twelve months								
Any Illicit Drug	*56.2*	*55.0*	49.5	49.8	45.1	46.3	45.0	40.1	−4.9s
Males	*58.9*	*56.2*	54.6	53.4	48.4	50.9	49.8	43.3	−6.5s
Females	*53.3*	*54.0*	44.9	46.7	41.9	42.7	41.1	37.7	−3.4
Any Illicit Drug Other than Marijuana	*32.3*	*31.7*	29.9	29.9	27.2	26.7	25.0	21.3	−3.7s
Males	*33.7*	*32.8*	33.4	33.5	29.2	29.7	28.6	23.5	−5.1
Females	*31.1*	*30.8*	26.9	26.8	25.2	24.4	22.1	19.6	−2.5
Any Illicit Drug Other than Marijuana or Stimulants	25.2	22.6	22.3	23.6	21.1	21.4	21.6	18.3	−3.3s
Males	28.4	25.7	25.7	26.6	25.3	24.4	25.8	20.8	−5.0
Females	22.1	19.8	19.3	21.1	17.0	19.0	18.0	16.4	−1.6
	Percent reporting use in last thirty days								
Any Illicit Drug	*38.4*	*37.6*	31.3	29.3	27.0	26.1	25.9	22.4	−3.5s
Males	*42.9*	*40.6*	37.7	33.8	30.4	29.9	31.0	24.0	−7.0s
Females	*34.0*	*34.8*	25.6	25.5	23.7	23.2	21.7	21.1	−0.6
Any Illicit Drug Other than Marijuana	*20.7*	*18.6*	17.1	13.9	13.8	11.8	11.6	8.8	−2.8s
Males	*22.8*	*18.6*	20.2	16.0	16.1	12.6	14.4	9.0	−5.4ss
Females	*18.7*	*18.5*	14.2	12.1	11.5	11.2	9.3	8.5	−0.8
Any Illicit Drug Other than Marijuana or Stimulants	12.6	11.5	11.2	9.8	10.7	9.1	9.7	7.1	−2.6s
Males	15.2	13.3	13.2	12.1	13.5	10.6	12.7	7.4	−5.3ss
Females	10.1	9.8	9.5	7.8	8.0	8.0	7.3	6.8	−0.5
	Approx. Wtd. N								
All Respondents	(1040)	(1130)	(1150)	(1170)	(1110)	(1080)	(1190)	(1220)	
Males	(520)	(530)	(550)	(550)	(540)	(490)	(540)	(520)	
Females	(520)	(600)	(610)	(620)	(570)	(600)	(650)	(700)	

NOTES: Level of significance of difference between the two most recent years:
s = .05, ss = .01, sss = .001.

[a]Revised questions about stimulant use were introduced in 1982 to exclude more completely the inappropriate reporting of nonprescription stimulants. The data in italics are therefore not strictly comparable to the other data.

- Use of ***any illicits other than marijuana*** declined more steadily between 1980 and 1986 (with annual prevalence among college students dropping gradually from 32% to 25%), but showed an accelerating decline (to 21%) in 1987 (Table 46). Again, this parallels the trend for the age group as a whole (Figure 55).

- Also, for most individual classes of drugs, the trends since 1980 among those enrolled in college tend to parallel those for the noncollege group, as well as the trends observed among seniors. That means that for most drugs there has been a decline in use over that time interval.

- In particular, daily ***marijuana*** use among college students fell significantly between 1980 and 1986, from 7.2% to 2.1%, as it did for those not in college and as it did among high school seniors. In 1987, an apparent leveling occurred for college students (2.3%), although their peers not in college continued a gradual decline, and the drop among high school seniors was statistically significant. Nevertheless, the proportion of American college students who are actively smoking marijuana on a daily basis has dropped by more than two-thirds since 1980.

- Among the other drugs, one of the largest declines observed among college students is for ***LSD***, with annual prevalence falling from 6.3% in 1982 to 2.2% in 1985. However, this figure rose to 3.9% in 1986, a statistically significant increase which was not paralleled in our data for high school seniors. In 1987, 4.0% of college students continued to report use in the prior year. Those young adults not in college full-time also showed an increase in 1986 (although it was smaller than that of their peers and not statistically significant) as well as a leveling in 1987 (Figure 58). Previous differences between the college and noncollege groups appear to have been eliminated.

- An appreciable and ongoing decline has occurred for ***stimulant*** use, for which annual prevalence has dropped two-thirds from 21% in 1982 to 7% in 1987. Proportionately this also is a larger drop than among seniors, but is fairly parallel to the overall change among their age-peers not in college (Figure 61).

- ***Methaqualone*** showed a dramatic drop among college students, going from an annual prevalence of 7.2% in 1980 to 0.8% in 1987. Again, this drop has been greater than among high school students, though only slightly greater, and parallels the even greater decline observed among those not in college. There remains practically no college-noncollege difference in methaqualone as both groups approach a 0% prevalence level.

- ***Barbiturate*** use was already quite low among college students in 1980 (at 2.9% annual prevalence) but it fell by more than half to 1.3% by 1985. This proportional decline was, once again, more sharp than among high school students, and less sharp than among the young adults not in college. Annual prevalence has remained unchanged since 1985 among college students and their noncollege peers, while use by high school seniors continues to decline.

- The annual prevalence of ***tranquilizer*** use dropped by half in the period 1980–1984, from 6.9% to 3.5%, and has remained fairly level since. Use in the noncollege segment dropped more sharply, narrowing the difference between the two groups, and then leveled in 1985 (Figure 64). Recall that tranquilizer use also dropped steadily among seniors, beginning in 1977, until it leveled in 1986 at about 5.5%.

- After dropping slightly between 1980 and 1982 (annual prevalence fell from 5.1% to 3.8%), the use of ***opiates other than heroin*** has held fairly steady (3.1% in 1987). This trend parallels quite closely what has been happening for the age group as a whole (Figure 60).

- Like the high school seniors, college students showed a relatively stable pattern of ***cocaine*** use between 1980 and 1986, and a statistically significant decline in 1987 (from 17% to 14% annual prevalence). This pattern is also followed by those not in college, who decreased their rate of use from 19% in 1986 to 15% this year. College students showed an even larger proportional drop in 1987 in 30-day prevalence (from 7.0% to 4.6%), as did their noncollege peers.

- It is in regard to ***alcohol*** use that college students appear to be showing shifts in use which are different from those observed either among their total age group or among high school seniors. The noncollege segment showed a decline between 1981 and 1984 in the prevalence of having ***five or more drinks in a row*** during the two weeks prior to the survey, while college students did not show this decline. As a result, the difference between the two groups on this statistic has been wider since 1983 than it was previously, as Figure 65c illustrates. (Recall that seniors also had shown a decline between 1981 and 1985.) Both young adult groups showed a nonsignificant decline in 1987.

  College students also have a 30-day prevalence of alcohol consumption which is higher than their peers (78% vs. 72%), but this difference has changed rather little since 1980.

  On the other hand, college students generally have had slightly lower rates of ***daily drinking*** than their age group taken as a whole although the difference may be narrowing. Daily drinking among the young adults not enrolled in college declined from 8.7% in 1981 to 6.5% in 1984, and since then has remained unchanged (6.6% in 1987). On the other hand, the daily drinking estimates for college students—which appear a little less stable, perhaps due to smaller sample sizes—have shown little or no decline since 1980. (Daily prevalence was 6.5% in 1980, 5.5% in 1981, and 6.0% in 1987.)

- ***Cigarette smoking*** among American college students declined modestly in the first half of the eighties. Thirty-day prevalence fell from 25.8% to 21.5% between 1980 and 1984, then rose slightly (to 22.4%) in 1985, where it stayed in 1986. In 1987, a slightly larger increase occurred (to 24.0%). (Smoking rates among seniors remained unchanged in 1987.) The ***daily smoking*** rate fell from 18.3% in 1980 to a low of 12.7% in 1986, before showing a nonsignificant increase to 13.9% in 1987. While the rates of smoking are dramatically lower among college students than among those not in college, their trends were highly parallel until 1987, when smoking is observed to increase only among college students (Figure 66b). Heavier smoking (half-a-pack a day or more) remained fairly constant for both groups in 1987 following a period of decline.

  Among seniors, the trend line for daily use of cigarettes during the 1980–1987 interval was much less steep. This divergence of trends between high school seniors and college-age graduates has resulted in much less difference in daily usage rates in 1987 between high school seniors (19%) and college-age graduates (23%) than there was in 1980 (21% vs. 30%). The quite different trends are occurring because of the greater importance of cohort effects than secular trends in determining shifts in smoking behavior.

- In sum, the trends in substance use among American college students appear to parallel closely those occurring among their age group as a whole, though there are a few important differences in absolute levels. The major exception occurred for occasions of heavy drinking, which fell off among those not enrolled full-time in college (as well as among high school seniors) but, if anything, were rising among college students.

  The trends among college students are also highly parallel, for the most part, to the trends among high school seniors, although declines in many drugs over the last half-decade (1980–1987) have been proportionately larger among college students (and for that matter among all young adults of college age).

SEX DIFFERENCES IN TRENDS AMONG COLLEGE STUDENTS

One trend which is not obvious from the figures included here is the fact that the proportion of college students who are female has been rising slowly. Females constituted 50% of our 1980 sample of college students, but 57% of our 1987 sample. Given that there exist substantial sex differences in the use of some drugs, we are concerned that apparent long-term trends in the levels of drug use among college students might actually be attributable to changes in the sex composition of that population. For that reason, in particular, we present separate trend lines for the male and female components of the college student population. Differences in the trends observed for these two groups are illustrated in Figures 54 through 66, and are discussed below:

- In general, trends in the use of the ***various drugs***, and in the overall ***drug use indexes***, have been highly parallel for male and female college students, as an examination of the relevant figures will show. The most noteworthy exceptions are mentioned below.

- In 1987, ***cocaine*** dropped more steeply for males than for females in general, and among male college students in particular. Annual prevalence among college males dropped fully 5% (to 15.8%), while females decreased by 1.8% (to 12.1%). Moreover, due to a statistically significant decline among college males, 30-day prevalence is now virtually identical for both sexes (4.8% vs. 4.4% of females).

- Certain drug use measures have shown a convergence of usage levels between the sexes, mainly because they are converging toward zero. ***Daily marijuana use*** is one such example, with the male-female ratio dropping from 3 to 1 in 1980 to 2 to 1 in 1987.

- ***Methaqualone*** also showed a convergence in use, with males declining more, and ***LSD*** showed such a convergence at least through 1983 (Figures 58 and 63).

- ***Stimulant*** use also showed a convergence between 1982 (when the revised questions were first introduced) and 1987, due to a greater decline among males.

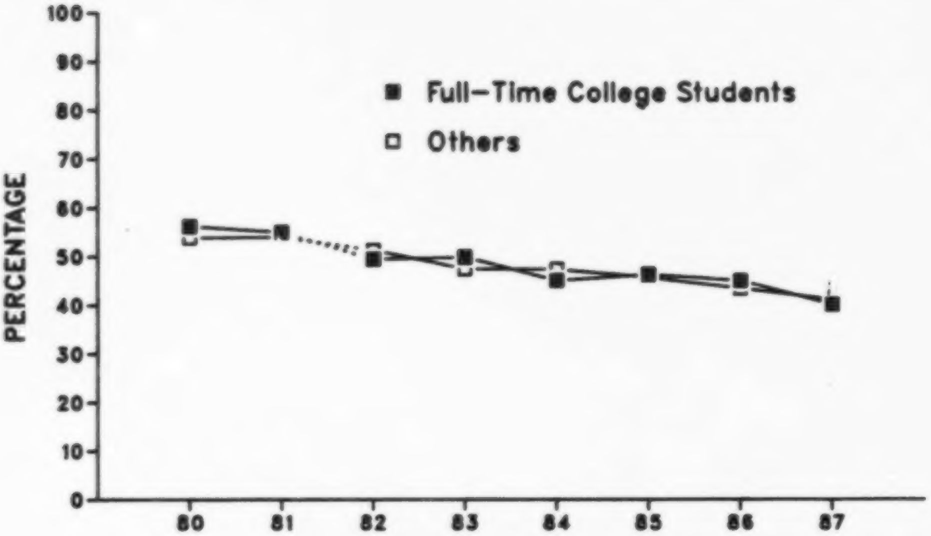
- Regarding ***alcohol*** use, annual prevalence has remained virtually identical for the two sexes throughout the period. However, there had been some evidence of a divergence in 30-day prevalence between 1982 and 1984, with females dropping and males rising overall, but more recently they have been converging again. Roughly the same has been true for ***daily*** prevalence. Perhaps most important, however, has been the divergence in ***occasions of heavy drinking***. Among college males, occasions of heavy drinking clearly became more prevalent (by about 5%) in the 1984–1986 period than they had been at the beginning of the eighties; and, if anything, they became less prevalent among noncollege males (by about 4%). This led to college males overtaking and surpassing noncollege males in occasions of heavy drinking (58% vs. 52%, respectively, in 1986). At the same time the prevalence for college females held steady while for noncollege females dropped about 3%. The result of these trends is that college students look more different from the noncollege segment on this measure in the mid-eighties than they did in the early eighties. In 1987 the males in both groups showed about a 4.5% decline, while both groups of females showed little change.

  Note in Figure 65c that there has always been some difference between the college and noncollege groups in occasions of heavy drinking, and this is attributable to the noncollege females drinking less than their female counterparts in college (likely due to a larger proportion of them being married). Although the rate for females in college has held quite steady since 1980, this gap has widened because the rate declined among the noncollege females.

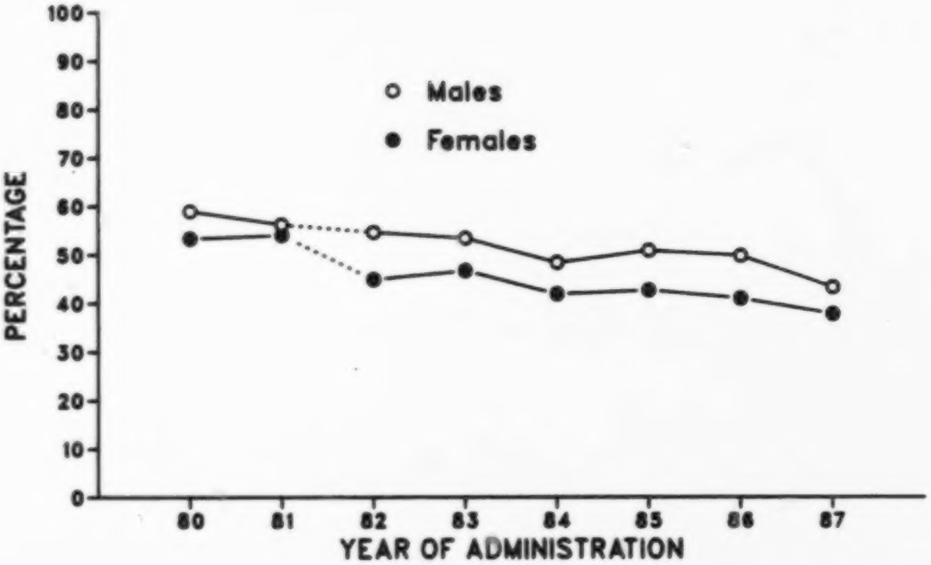
- Since 1980 ***cigarette*** smoking has consistently been higher among females than males in college. The sole exception occurred this year for heavier use (half-a-pack or more per day), with a nonsignificant rise among males and an equal decline among females resulting in equivalent rates between the sexes.

FIGURE 54

Any Illicit Drug: Trends in Annual Prevalence Among College Students Vs. Others[a]
1-4 Years Beyond High School



Any Illicit Drug: Trends in Annual Prevalence Among Male and Female College Students

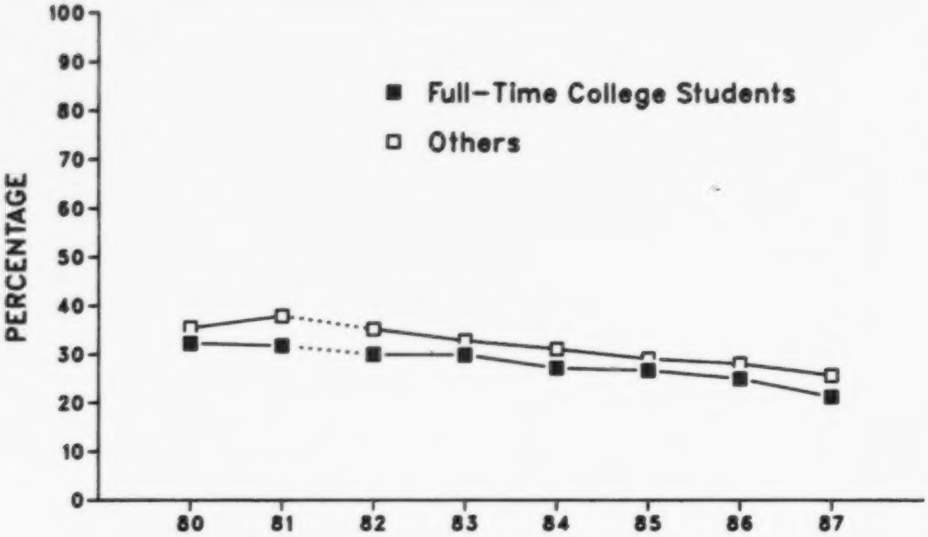


NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.
[a]"Others" refers to high school graduates 1-4 years beyond high school not currently enrolled full-time in college.

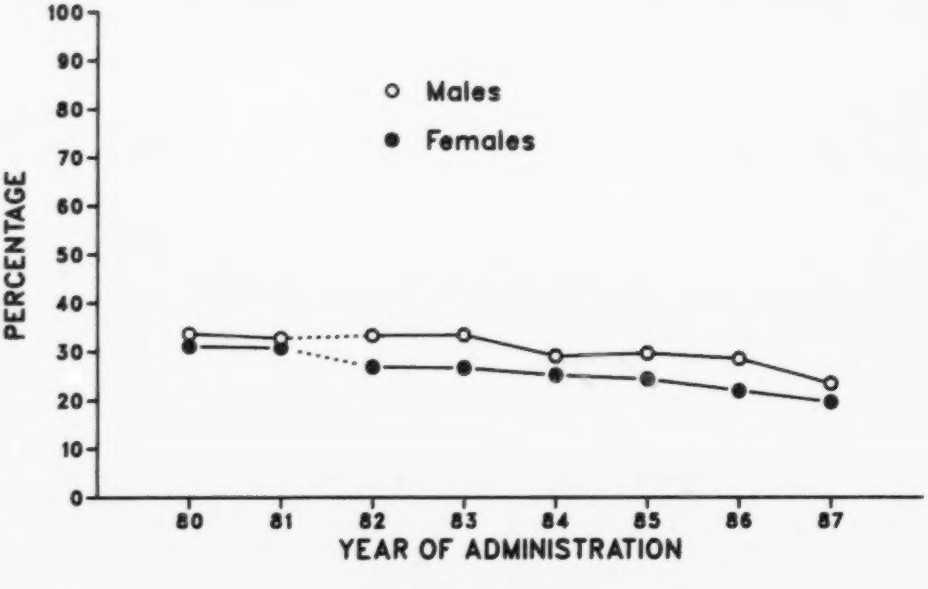
FIGURE 55

Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among College Students Vs. Others

1-4 Years Beyond High School



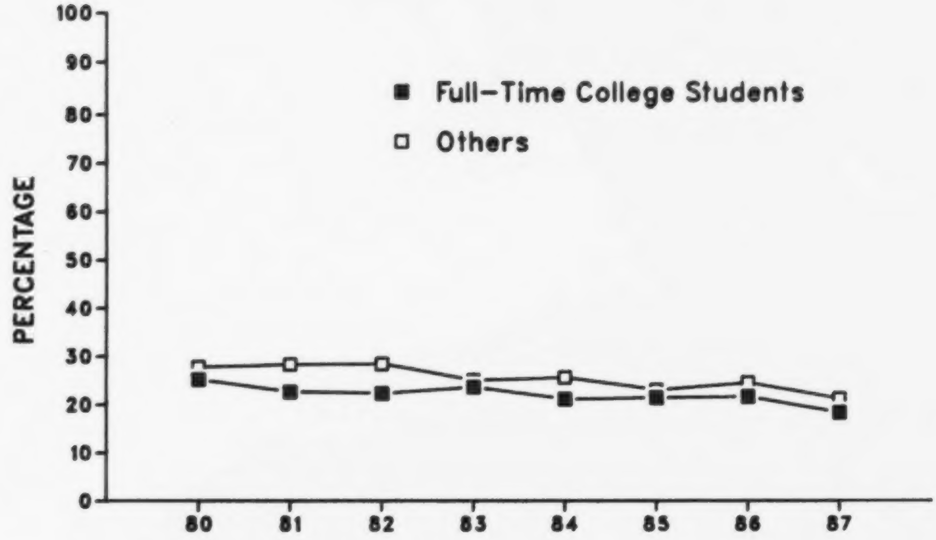
Any Illicit Drug Other than Marijuana: Trends in Annual Prevalence Among Male and Female College Students



NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 56

Any Illicit Drug Other than Marijuana or Stimulants: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



Any Illicit Drug Other than Marijuana or Stimulants: Trends in Annual Prevalence Among Male and Female College Students

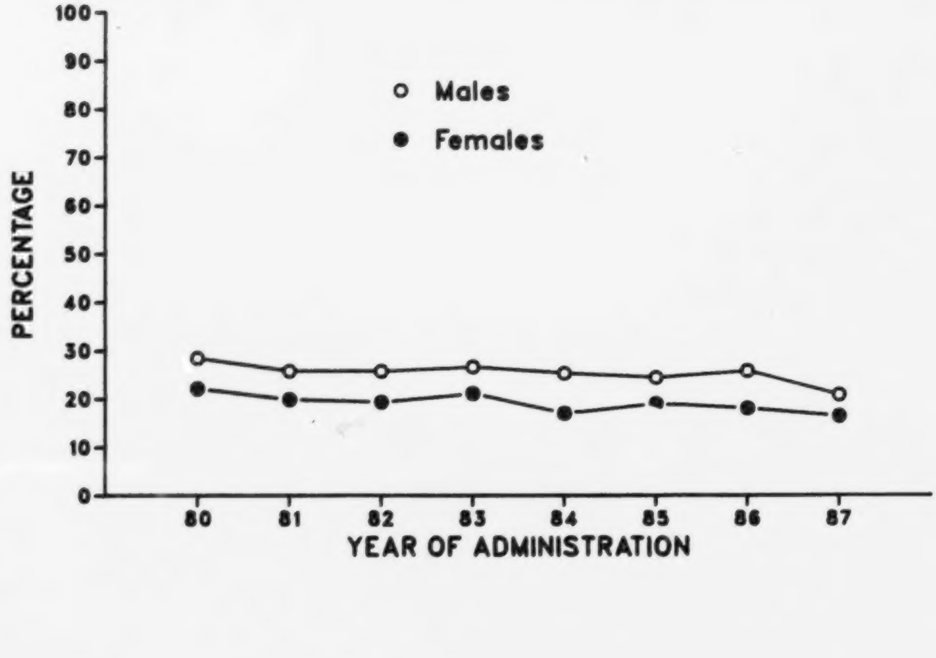


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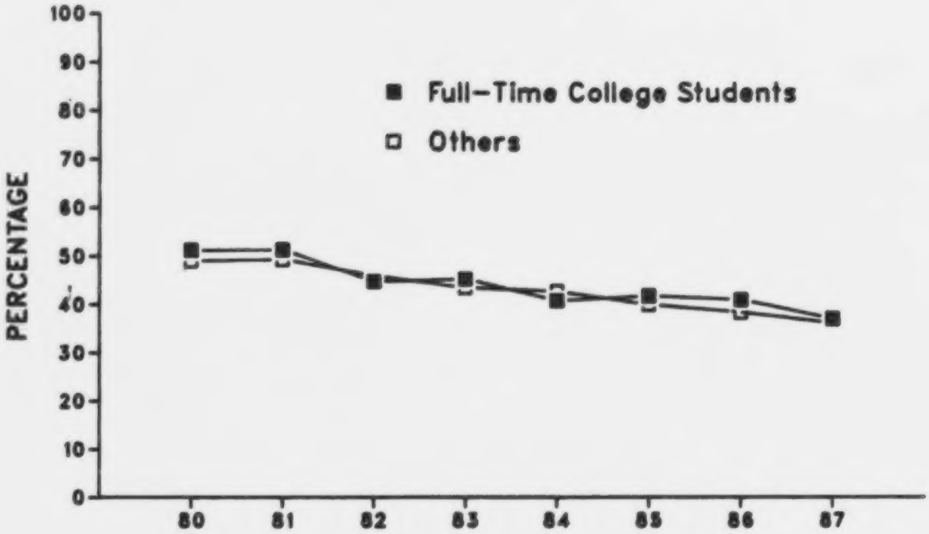
FIGURE 57a

Marijuana: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



Marijuana: Trends in Annual Prevalence Among Male and Female College Students

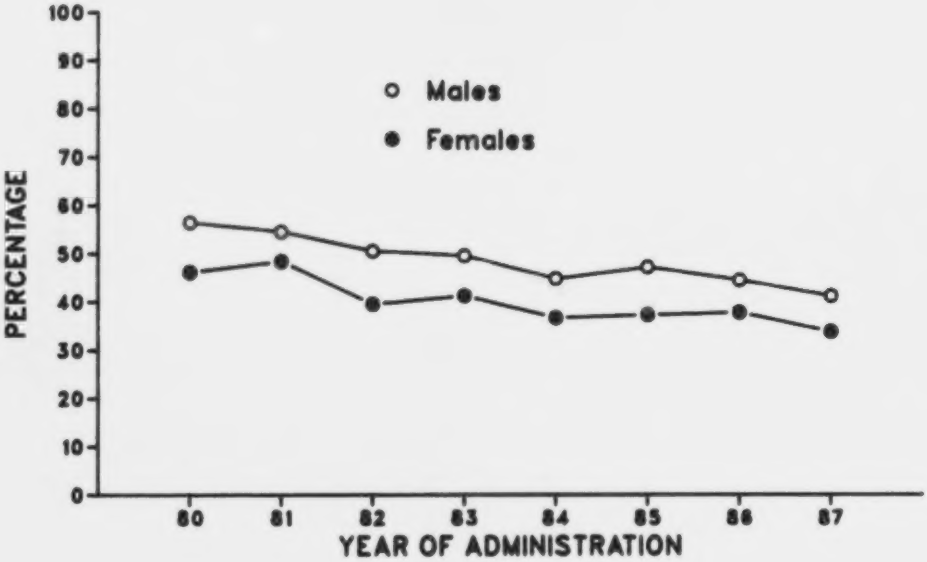
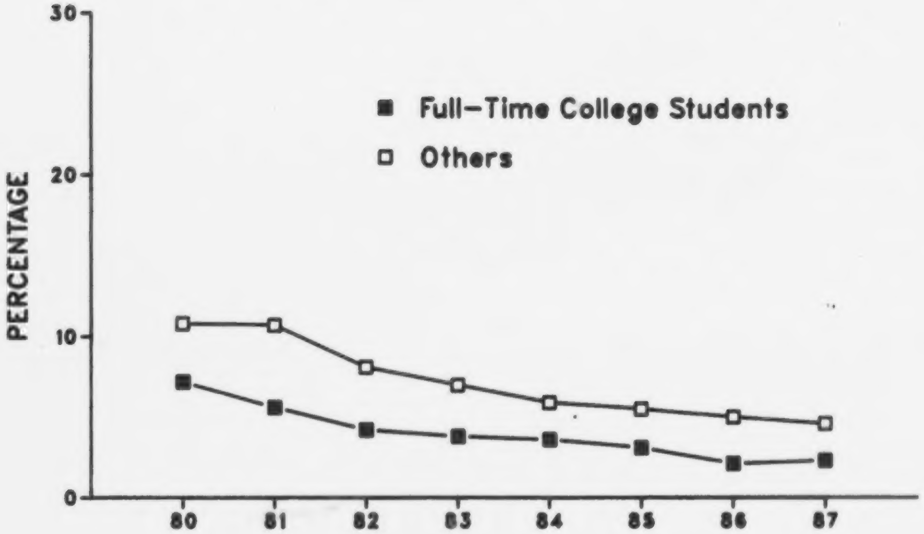
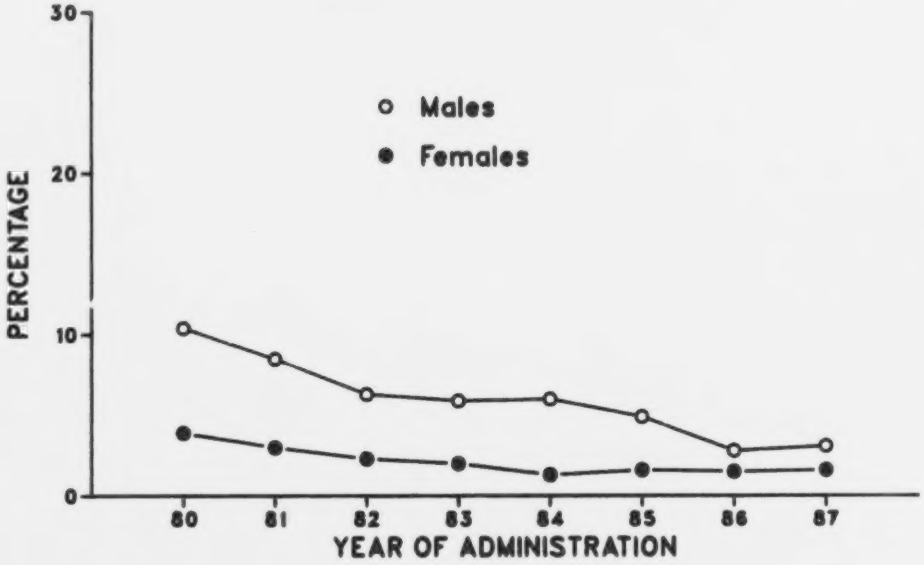


FIGURE 57b

Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among College Students Vs. Others
1-4 Years Beyond High School



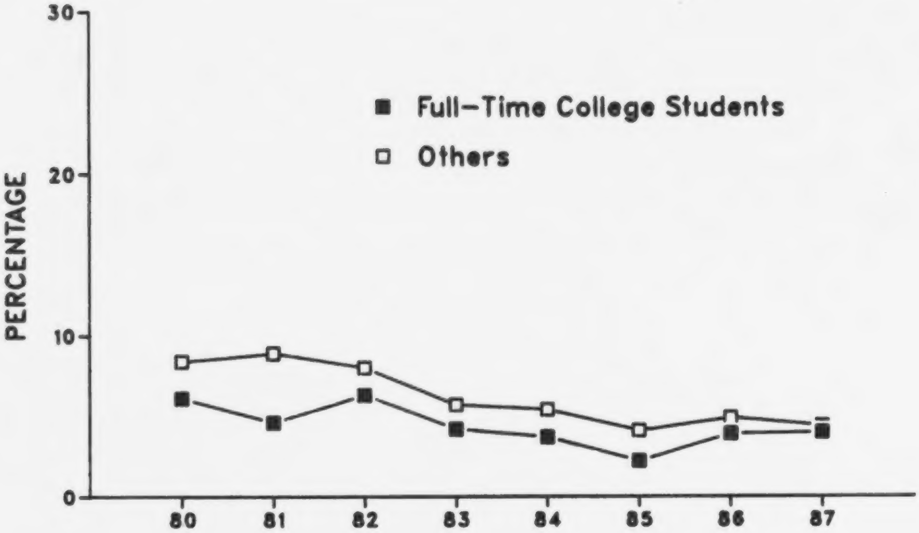
Marijuana: Trends in Thirty-Day Prevalence of Daily Use Among Male and Female College Students



300

FIGURE 58

LSD: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



LSD: Trends in Annual Prevalence Among Male and Female College Students

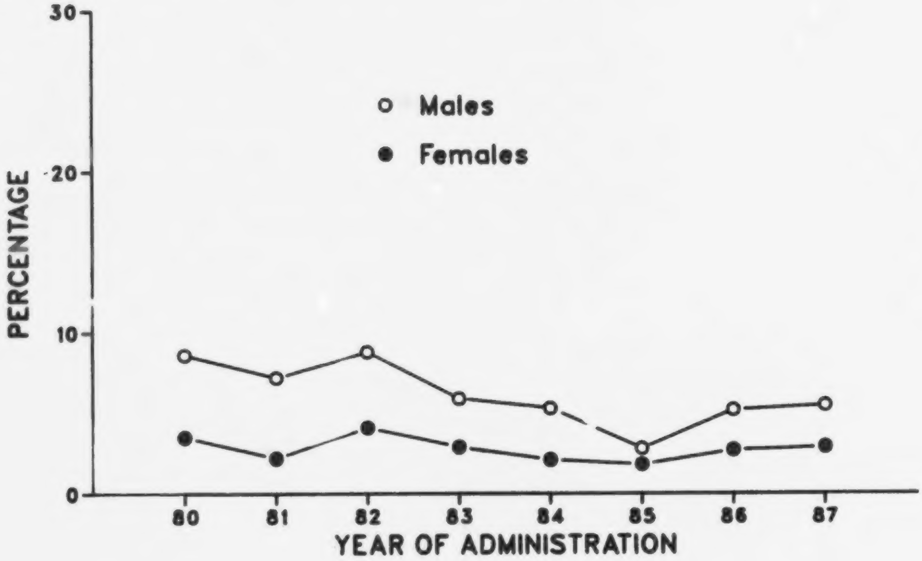
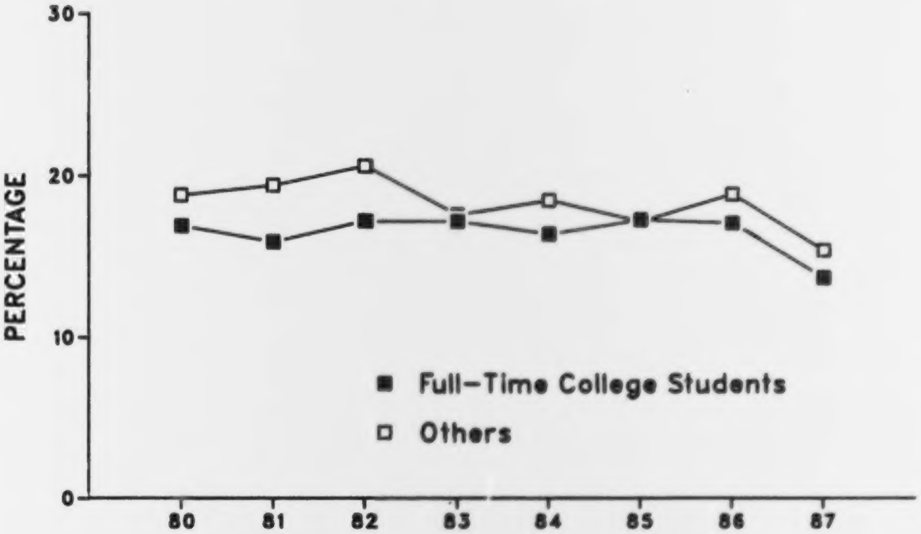


FIGURE 59

Cocaine: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



Cocaine: Trends in Annual Prevalence Among Male and Female College Students

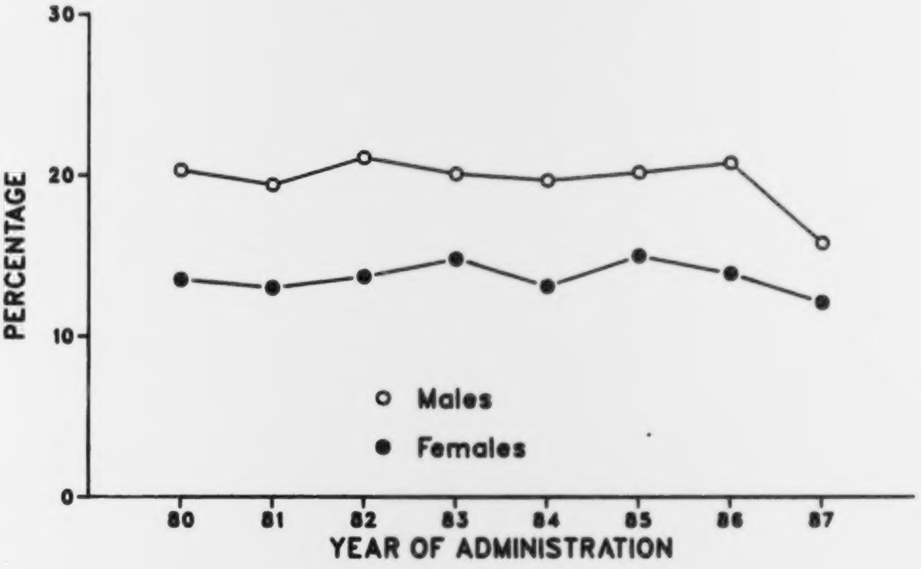
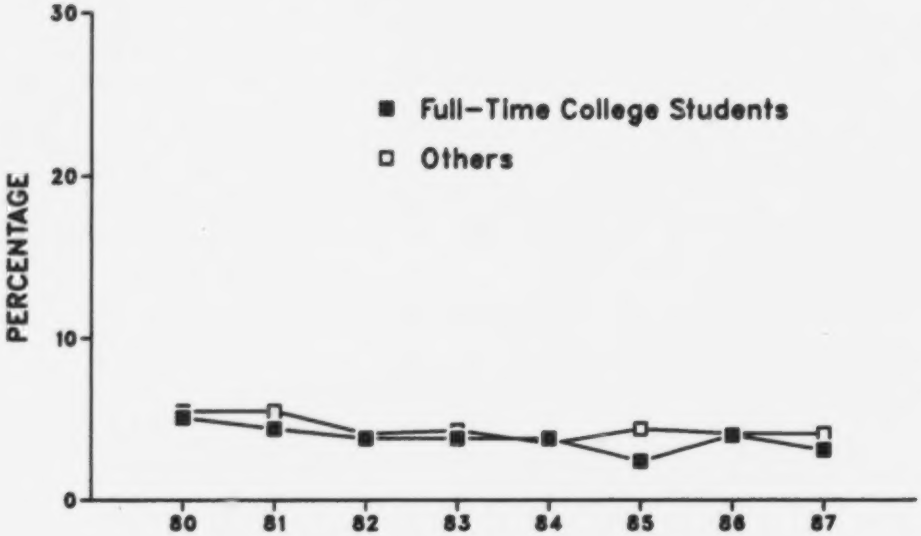


FIGURE 60

Other Opiates: Trends in Annual Prevalence Among College Students Vs. Others
1–4 Years Beyond High School



Other Opiates: Trends in Annual Prevalence Among Male and Female College Students

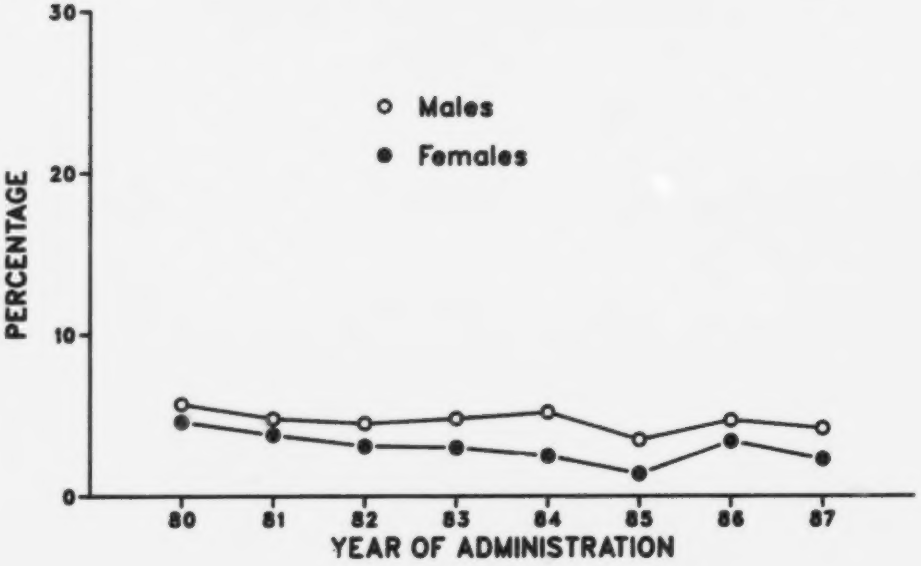
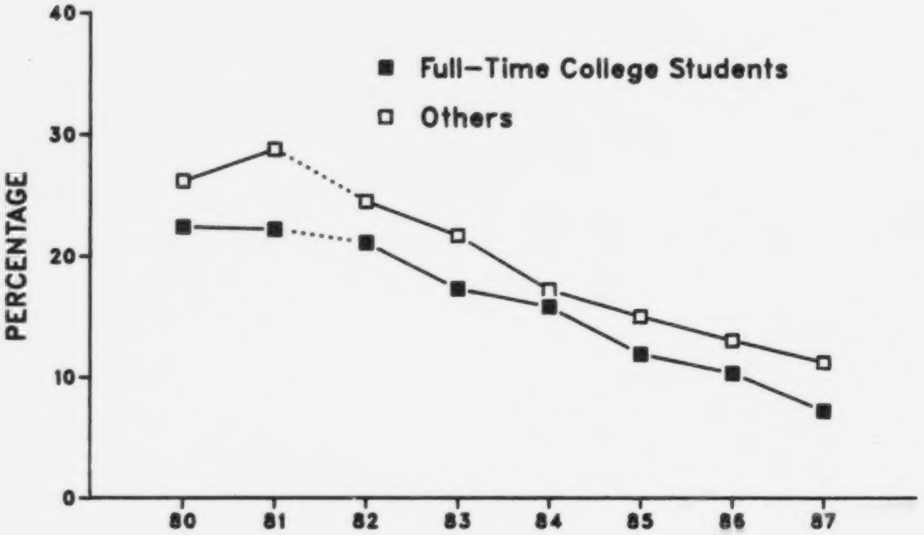
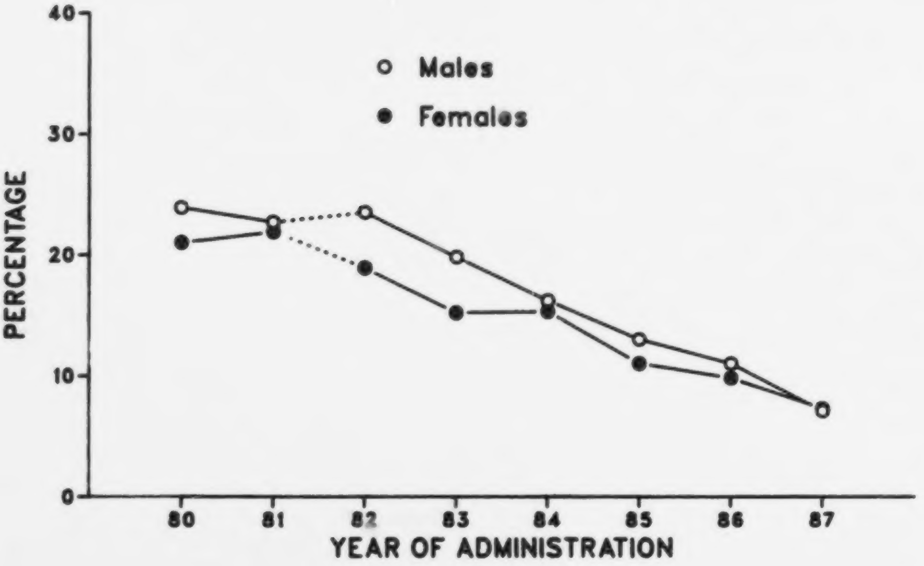


FIGURE 61

Stimulants: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



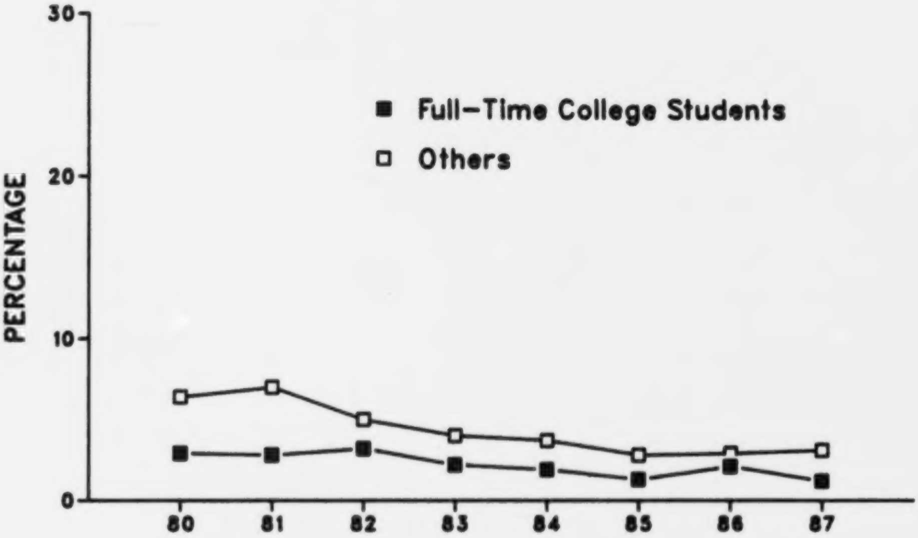
Stimulants: Trends in Annual Prevalence Among Male and Female College Students



NOTE: The dotted lines between 1981 and 1982 denote the change in the amphetamine question.

FIGURE 62

Barbiturates: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Barbiturates: Trends in Annual Prevalence
Among Male and Female College Students

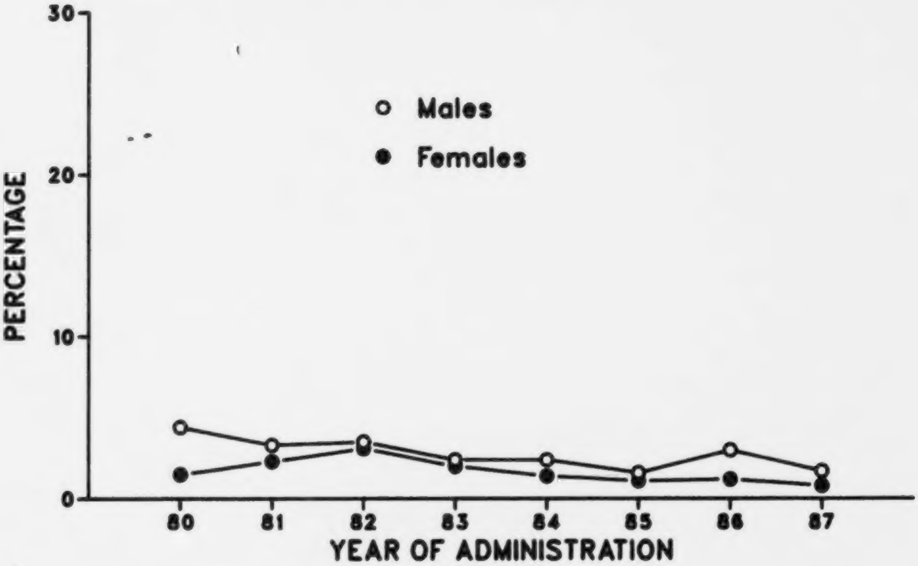
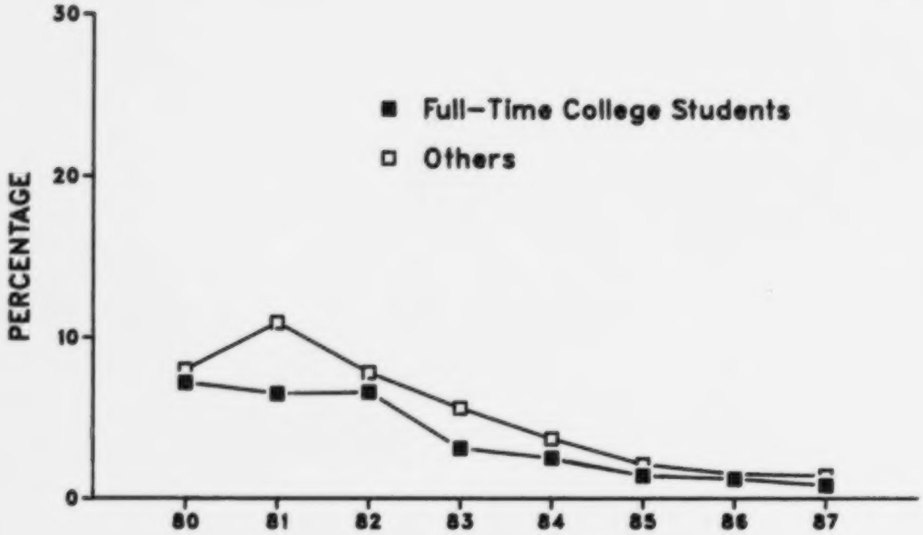


FIGURE 63

**Methaqualone: Trends in Annual Prevalence
Among College Students Vs. Others**
1-4 Years Beyond High School



**Methaqualone: Trends in Annual Prevalence
Among Male and Female College Students**

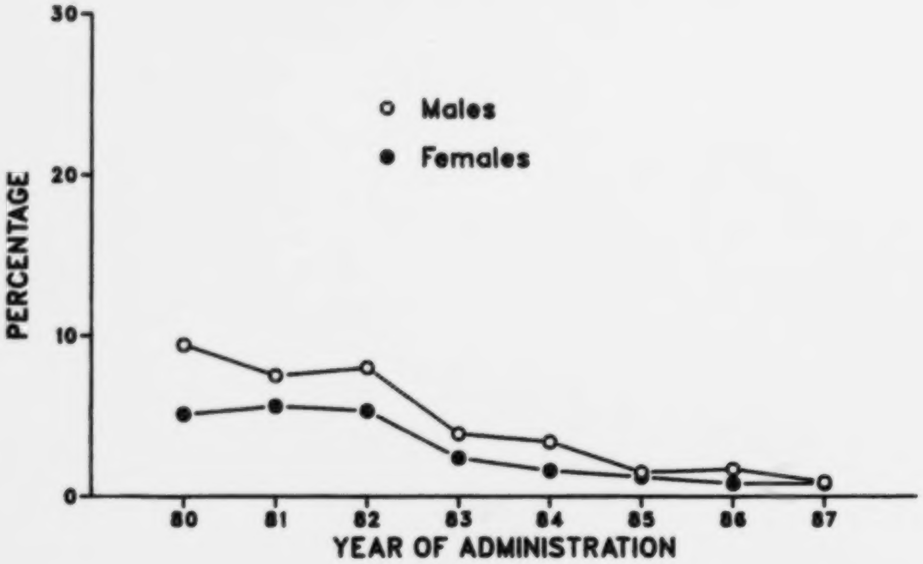
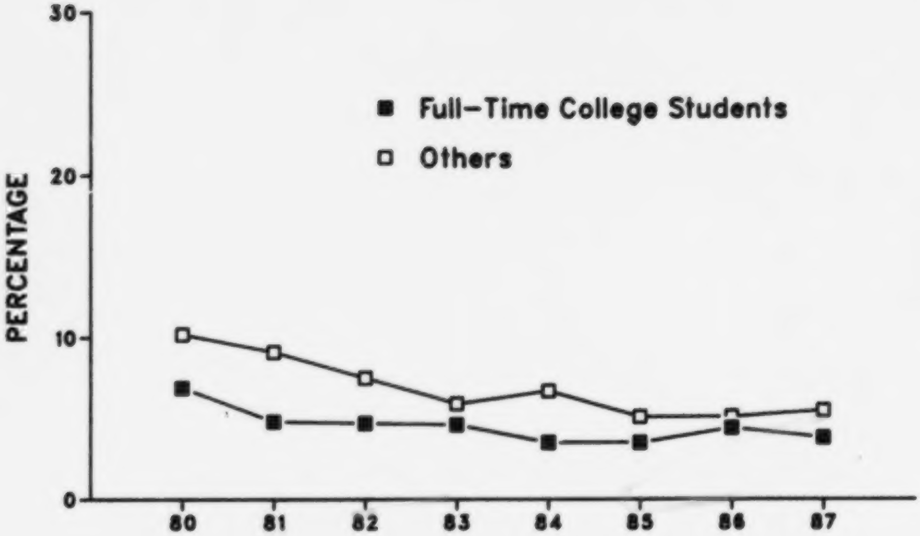


FIGURE 64

Tranquilizers: Trends in Annual Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Tranquilizers: Trends in Annual Prevalence
Among Male and Female College Students

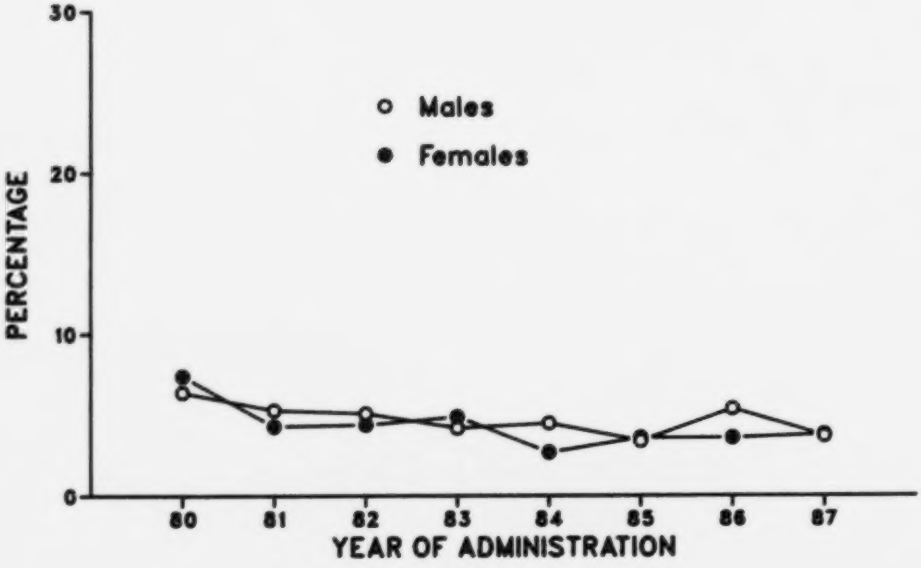
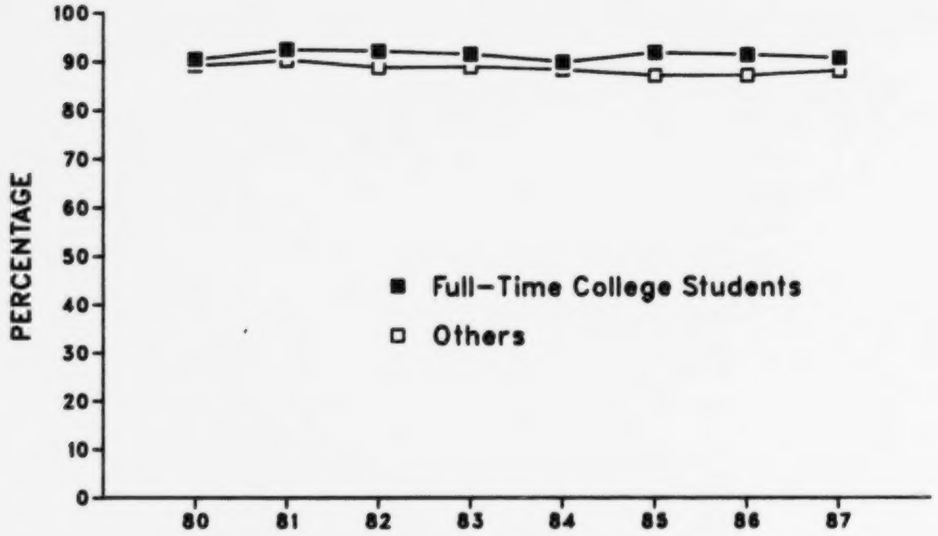


FIGURE 65a

Alcohol: Trends in Annual Prevalence Among College Students Vs. Others
1-4 Years Beyond High School



Alcohol: Trends in Annual Prevalence Among Male and Female College Students

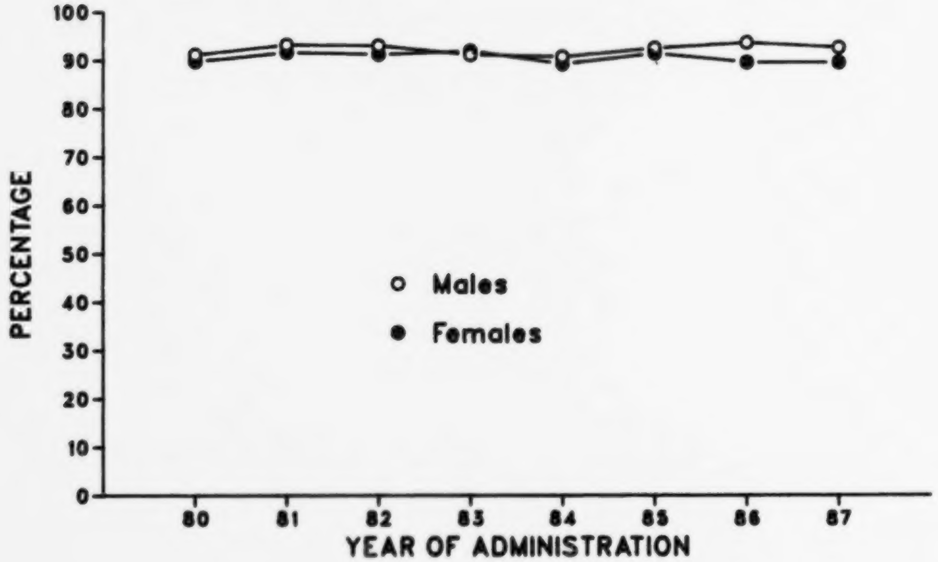
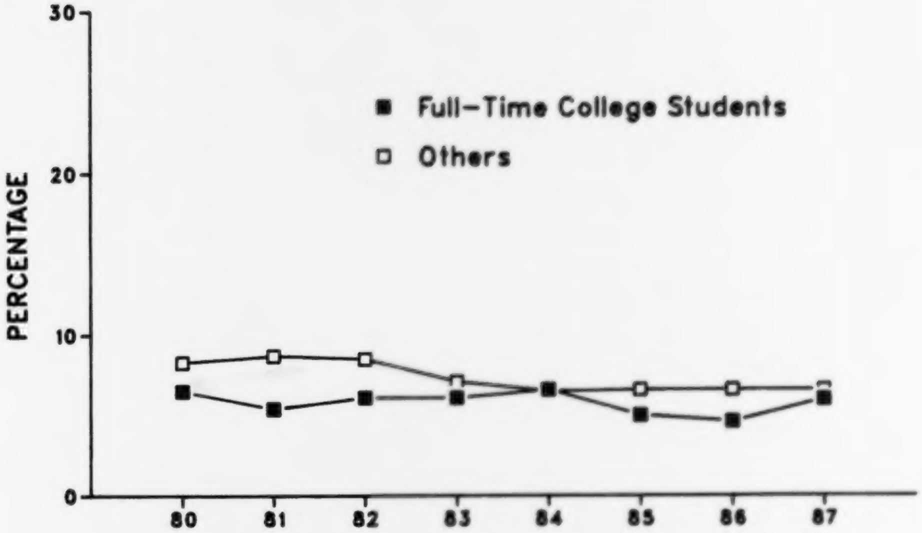


FIGURE 65b

Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among College Students Vs. Others
1–4 Years Beyond High School



Alcohol: Trends in Thirty-Day Prevalence of Daily Use Among Male and Female College Students

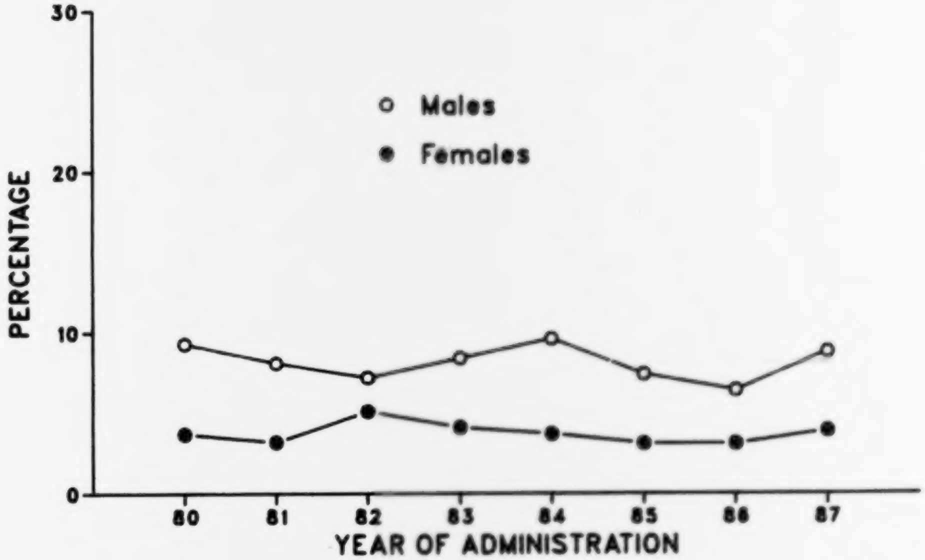
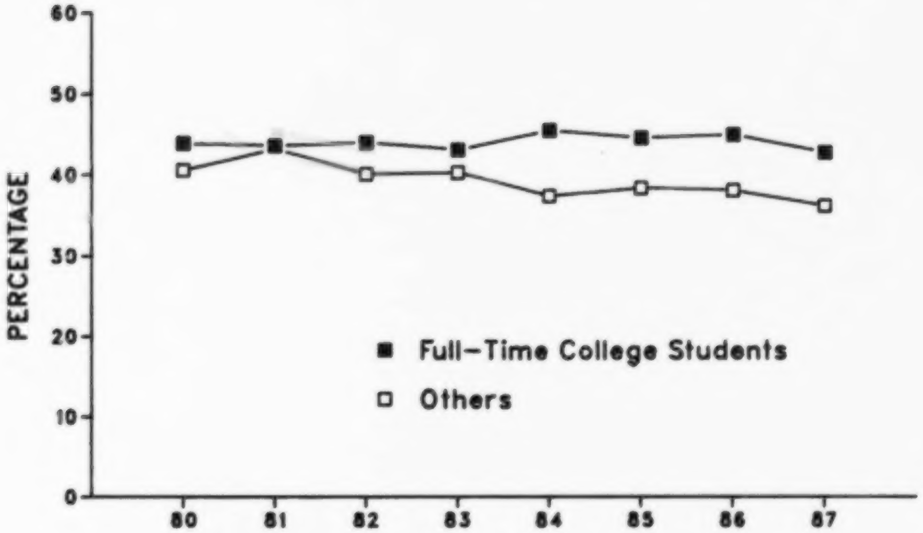


FIGURE 65c

Alcohol: Trends in Two Week Prevalence of 5 or More Drinks in a Row Among College Students Vs. Others
1-4 Years Beyond High School



Alcohol: Trends in Two Week Prevalence of 5 or More Drinks in a Row Among Male and Female College Students

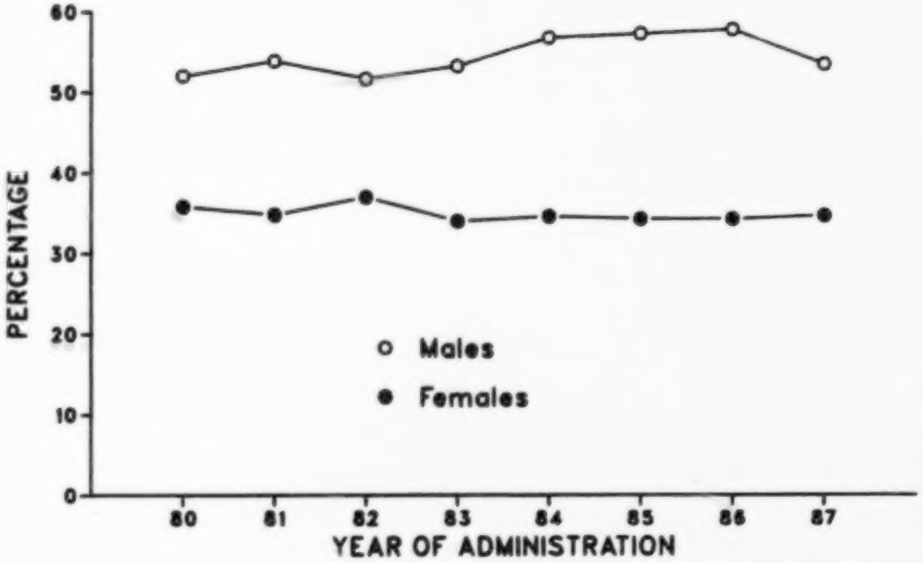
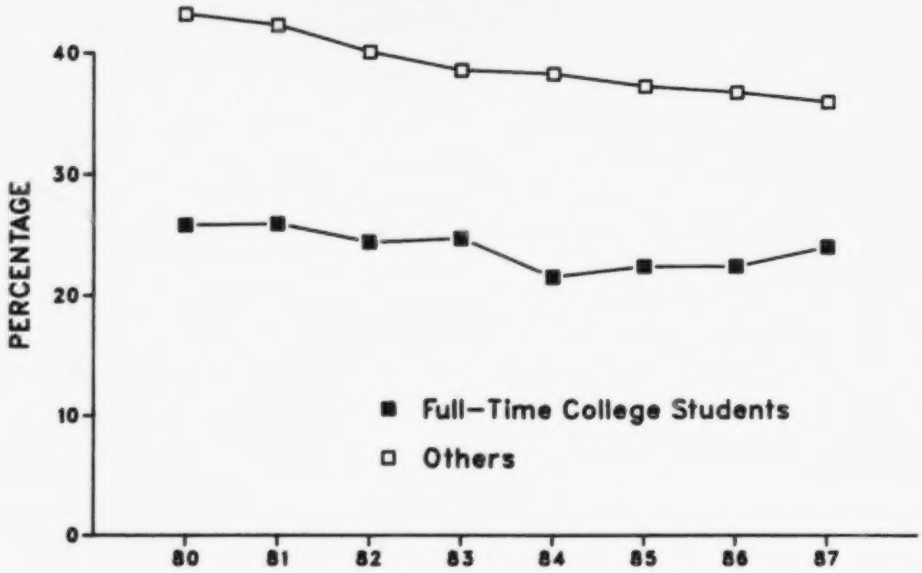


FIGURE 66a

Cigarettes: Trends in Thirty-Day Prevalence
Among College Students Vs. Others
1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Prevalence
Among Male and Female College Students

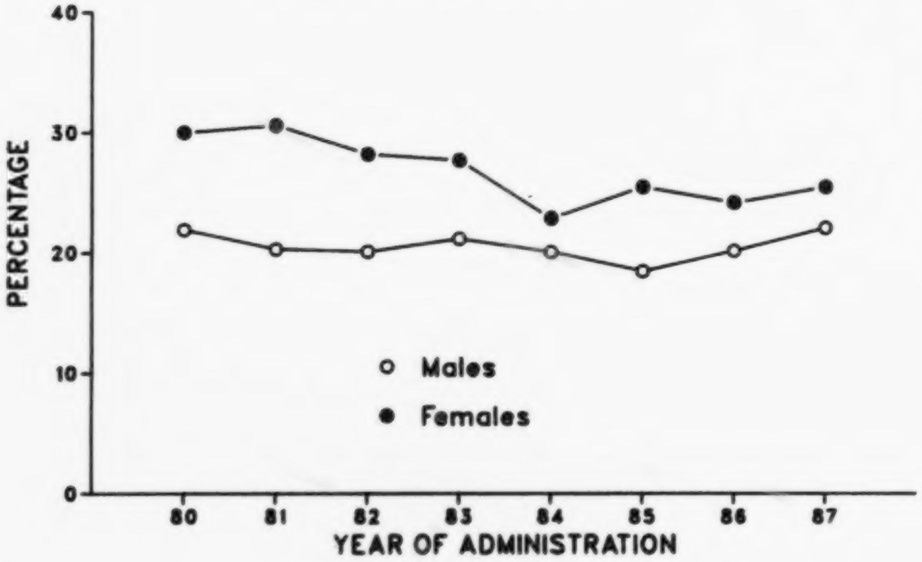
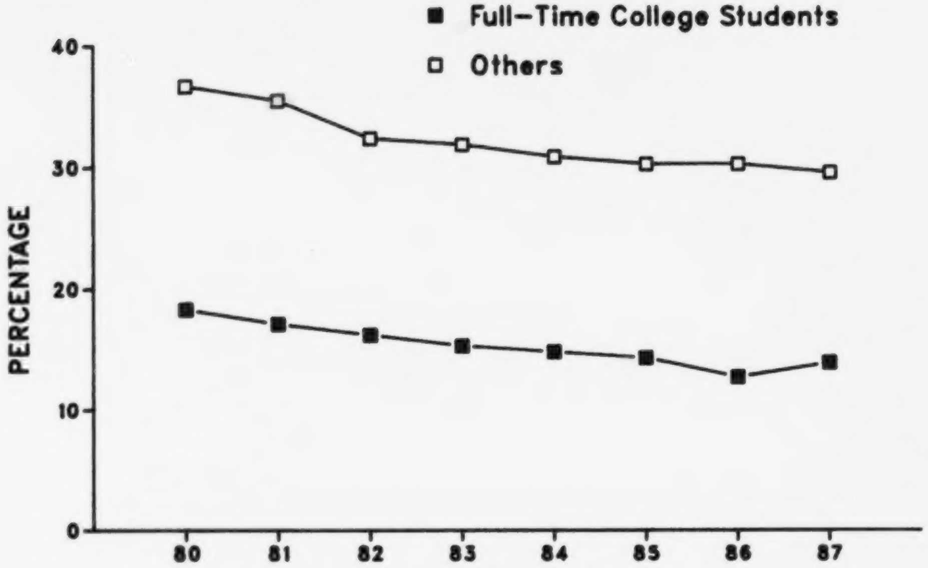


FIGURE 66b

Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Among College Students Vs. Others
1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Among Male and Female College Students

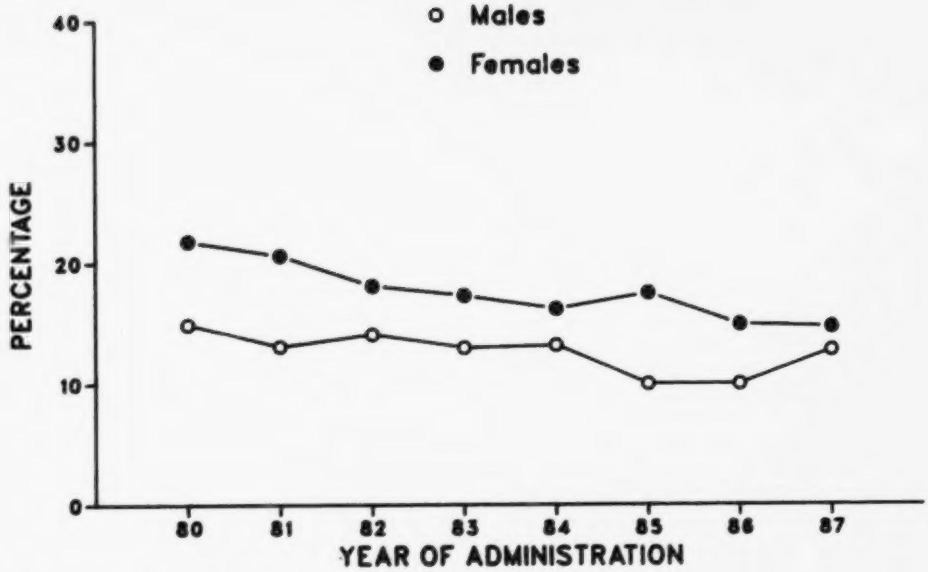
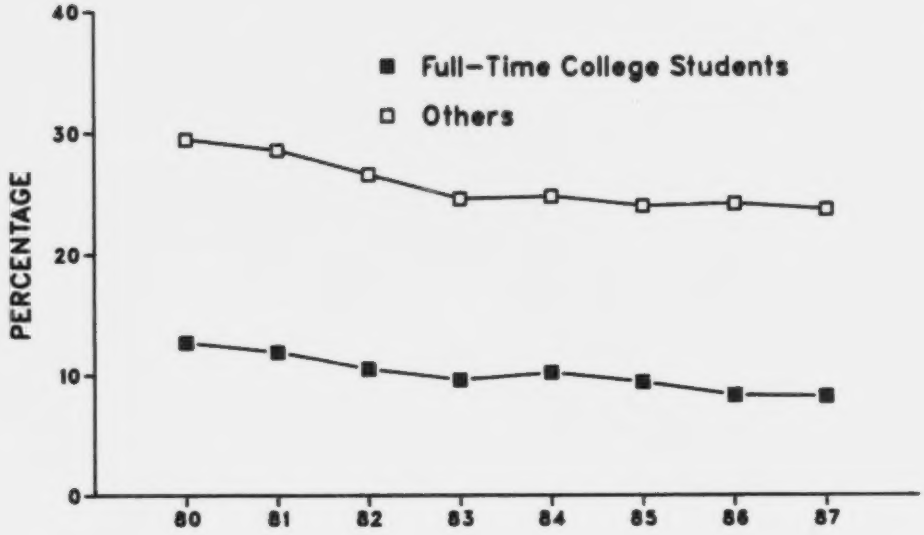
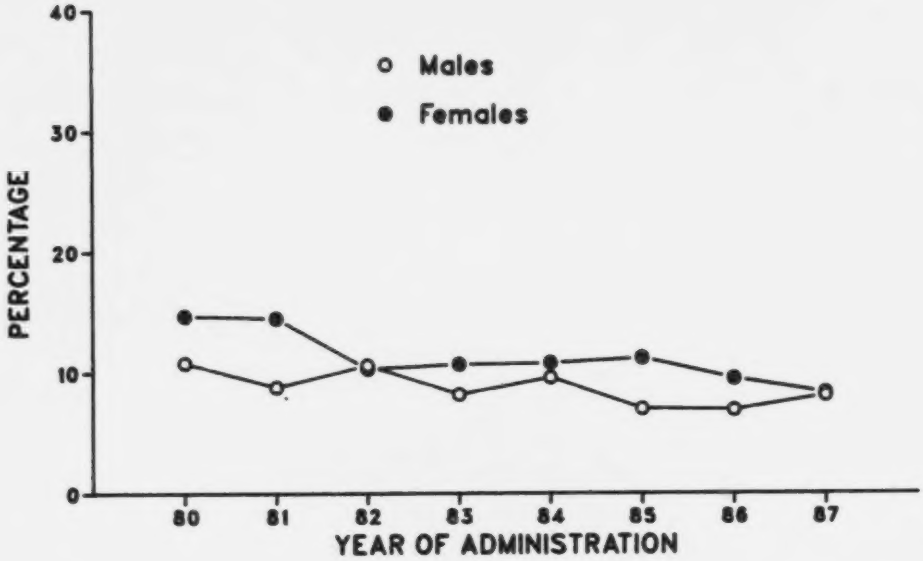


FIGURE 66c

Cigarettes: Trends in Thirty-Day Use of Half-Pack a Day or More Among College Students Vs. Others
1-4 Years Beyond High School



Cigarettes: Trends in Thirty-Day Use of Half-Pack a Day or More Among Male and Female College Students



OTHER RESULTS

Chapter 16

OTHER FINDINGS FROM THE STUDY

Each year this section presents additional recent findings from the Monitoring the Future study. Some of these have been published elsewhere; however, the first two analyses included here—on the use of nonprescription stimulants and daily marijuana use—are not reported elsewhere.

THE USE OF NONPRESCRIPTION STIMULANTS

As is discussed in other chapters of this report, between 1979 and 1981 we observed a substantial increase in reported stimulant use by high school students. We had reason to believe that a fair part of that increase was attributable to nonprescription stimulants of two general types—"look-alike" drugs (pseudo-amphetamines, usually sold by mail order, which look like, and often have names that sound like, real amphetamines) and over-the-counter stimulants (primarily diet pills and stay-awake pills). These drugs usually contain caffeine, ephedrine, and/or phenylpropanolamine as their active ingredients.

Beginning with the 1982 survey we introduced new questions on some questionnaire forms in order to more accurately assess the use of amphetamines as well as to assess the use of the "look-alikes," diet pills, and stay-awake pills of the nonprescription variety. For example, on one of the five questionnaire forms respondents were asked to indicate on how many occasions (if any) they had taken nonprescription diet pills such as Dietac™, Dexatrim™, and Prolamine™ (a) in their lifetime, (b) in the prior twelve months, and (c) in the prior thirty days. (These correspond to the standard usage questions asked for all drugs.) Similar questions were asked about nonprescription stay-awake pills (such as No-Doz™, Vivarin™, Wake™, and Caffedrine™) and the "look-alike" stimulants. (The latter were described at some length in the actual question.)

On three of the five questionnaire forms in 1982 and 1983 (and in all questionnaire forms thereafter) respondents were also asked about their use of prescription amphetamines, with very explicit instructions to exclude the use of over-the-counter and "look-alike" drugs. These questions yielded the data described in this volume as "stimulants, adjusted." Here we will refer to them as "amphetamines, adjusted," to distinguish them more clearly from the nonamphetamine stimulants.

Prevalence of Use in 1987 Among Seniors

- Table 47 gives the prevalence levels for these various classes of stimulants. As can be seen, a substantial proportion of students (26%) have used over-the-counter ***diet pills*** and 6% have used them in just the past month. Some 0.5% are using them daily.

TABLE 47

Non-Prescription Stimulants: Trends in Lifetime, Annual, and Thirty-Day Prevalence by Sex

(Entries are percentages)

	Diet Pills							Stay-Awake Pills							Look-Alikes						
	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
Lifetime Prevalence																					
Total	29.6	31.4	29.7	28.7	26.6	25.5	−1.1	19.1	20.4	22.7	26.3	31.5	37.4	+5.9sss	15.1	14.8	15.3	14.2	12.7	11.9	−0.8
Males	16.5	17.4	14.8	14.8	13.1	12.4	−0.7	20.2	22.3	23.2	28.0	32.0	34.8	+2.8	13.6	14.2	14.1	14.1	12.3	10.9	−1.4
Females	42.2	44.8	43.1	41.5	39.7	38.3	−1.4	16.9	18.2	21.7	24.9	31.3	39.4	+8.1sss	15.1	14.4	15.2	13.8	12.6	12.3	−0.3
Annual Prevalence																					
Total	20.5	20.5	18.8	16.9	15.3	13.9	−1.4	11.8	12.3	13.9	18.2	22.2	25.2	+3.0s	10.8	9.4	9.7	8.2	6.9	6.3	−0.6
Males	10.7	10.6	9.2	9.0	6.9	6.4	−0.5	12.8	13.8	15.4	19.7	22.3	25.5	+3.2	9.5	9.2	9.7	8.3	6.5	6.4	−0.1
Females	29.5	30.0	27.5	24.4	23.2	21.1	−2.1	10.0	10.5	12.5	17.0	22.2	25.0	+2.8	10.7	8.6	8.5	7.8	6.7	6.0	−0.7
Thirty-Day Prevalence																					
Total	9.8	9.5	9.9	7.3	6.5	5.8	−0.7	5.5	5.3	5.8	7.2	9.6	9.2	−0.4	5.6	5.2	4.4	3.6	3.4	2.7	−0.7
Males	5.0	4.0	4.8	3.7	3.2	2.7	−0.5	6.0	5.5	6.2	7.7	9.5	9.3	−0.2	4.0	4.5	4.5	3.8	3.4	2.4	−1.0
Females	14.0	13.7	14.2	10.7	9.6	8.9	−0.7	4.7	4.5	5.5	6.7	9.3	9.1	−0.2	5.2	5.4	3.8	3.1	3.0	2.7	−0.3

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

- Based on the data presented earlier in this report, we know that very similar proportions are using actual ***amphetamines*** (adjusted): 22% lifetime, 5% monthly, and 0.3% daily prevalence.

- Only about half as many students are knowingly using the "***look-alikes***" as are using diet pills or amphetamines (adjusted): 12% lifetime, 3% monthly, and 0.2% daily prevalence. Of course, it is probable that some proportion of those who think they are getting real amphetamines have actually been sold "look-alikes," which are far cheaper for drug dealers to purchase.

- This year, ***stay-awake pills*** are the most widely used stimulant: 37% lifetime, 9% monthly, and 0.4% daily prevalence.

- Recall that in 1983 the newly revised question on amphetamine use yielded prevalence estimates which were about one-quarter to one-third lower than the original version of the question, indicating that some distortion in the unadjusted estimates was occurring as a result of the inclusion of some nonprescription stimulant use.

Subgroup Differences

- Figure 67 shows the prevalence figures for these drug classes for ***males and females*** separately. It can be seen that the use of ***diet pills*** is dramatically higher among females than among males. In fact, the absolute prevalence levels for females are impressively high, with some 38% reporting some experience with them and 9%—or nearly one in every eleven females—reporting use in just the last month. For all other stimulants the prevalence rates for both sexes are fairly close.

- A similar comparison for those planning four years of ***college*** (referred to here as the "college-bound") and those who are not shows some differences as well (data not shown). As is true for the controlled substances, use of the "***look-alikes***" is lower among the college-bound (5% annual prevalence vs. 8% among the noncollege-bound).

  This year's results show very little difference between these two groups in their use of diet pills; and use of ***stay-awake pills*** is actually higher for the college-bound—annual prevalence is 27% vs. 23% for the noncollege-bound.

- There are no dramatic regional differences in the use of diet pills or "look-alikes." The South, however, is somewhat lower than the other regions in prevalence of using the stay-awake pills.

- There generally have not been systematic differences in use of non-prescription stimulants associated with population density. However, this year the use of look-alikes showed up as highest in

TABLE 48

Percent of Respondents in Each Category of an Illicit Drug Use Index Who Have Tried Various Over-the-Counter Stimulants, Class of 1987

	Lifetime Illicit Drug Use		
Lifetime use of...	No Use	Marijuana Only	Other Illicit Drugs
Diet Pills	14.1[a]	24.2	42.4
Stay-Awake Pills	17.0	42.4	62.2
"Look-Alikes"	1.2	7.8	28.7
Approx. N=	(1303)	(657)	(1031)

---

[a] This means that, of those who have never used an illicit drug, 14.1% have used a diet pill at least once.

nonurban areas (8.2% annual prevalence) and lowest in the most urban areas (4.4%).

- The use of all of the nonprescription stimulants (i.e., ***diet pills***, ***stay-awake pills***, and "***look-alikes***") is substantially higher among those who have had experience with the use of illicit drugs than among those who have not, and highest among those who have become most involved with illicit drugs (see Table 48). For example, 1% of those who have abstained from any illicit drug use report ever using a "***look-alike***" stimulant, compared to 8% of those who have used only marijuana and 29% of those who have used some illicit drug other than marijuana.

Trends in Use Among Seniors

- Because these questions were new in 1982, trends can be directly assessed only since then.

- However, it is worth noting that the adjusted 1982 figures for ***amphetamines*** are higher than the unadjusted figures for all years prior to 1980. (See Tables 8 through 11.) This suggests that there was indeed an increase in amphetamine use between 1979 and 1982—or at least an increase in what, to the best of the respondent's knowledge, were amphetamines.

- In recent years, there have been increased legislative and law enforcement efforts to curb the manufacture and distribution of "***look-alike***" pills. Perhaps as a result, the use of these pills decreased from 1982 to 1987; for example, annual prevalence went from 10.8% to 6.3%. Most of the decline occurred among those who have had experience with illicit drugs other than marijuana—the group primarily involved in the use of "look-alikes".

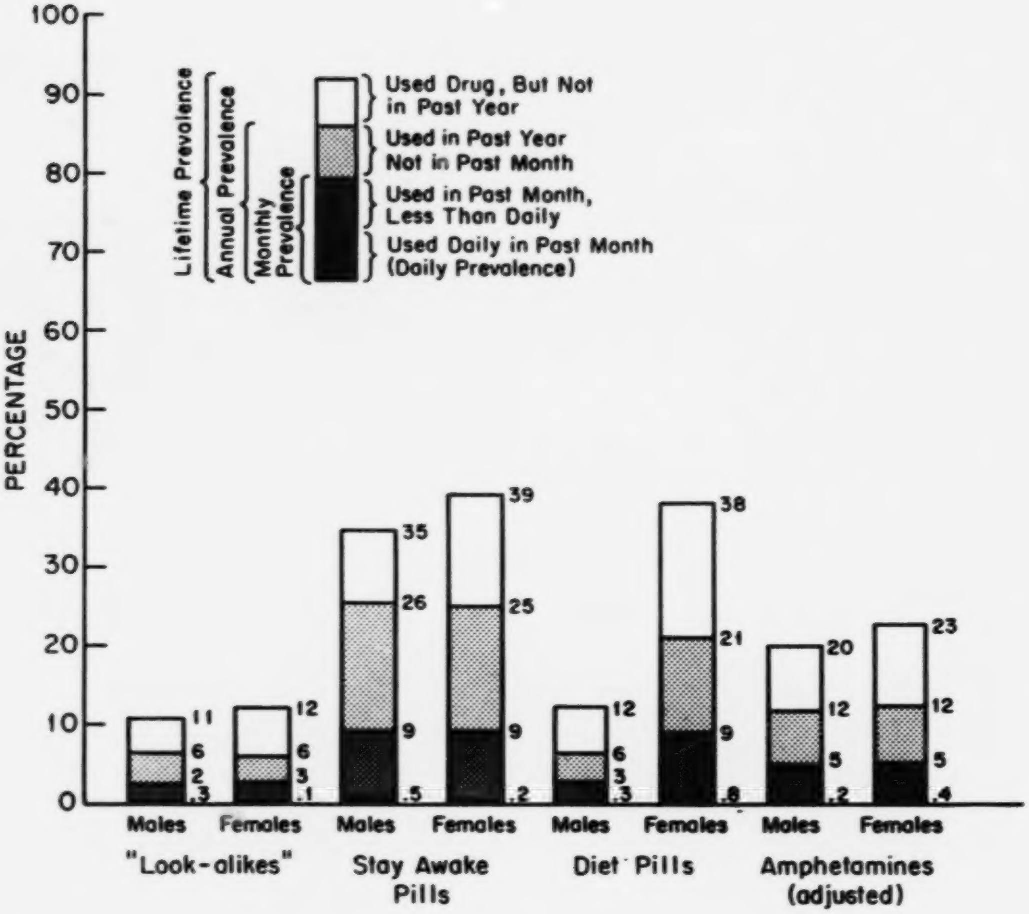
- Use of ***diet pills*** decreased between 1983 and 1987. Annual prevalence fell over that interval from 20.5% to 13.9%. Nearly all of this decline occurred among the group who had used illicit drugs other than marijuana.

- Only the use of ***stay-awake*** pills has increased significantly in recent years, particularly in 1985, 1986, and 1987 with annual prevalence increasing from 12% in 1982 to 14% in 1984 to 22% in 1986 and to 25% in 1987. This increase occurred primarily among those who have had experience in the use of illicit drugs, including those who had used only marijuana (data not shown).

- All subgroups (defined by sex, college plans, region of the country, and population size) have shown similarly large increases over this interval in their use of ***stay-awake pills***. However, the increase among the college-bound has been even greater than among the noncollege-bound, reversing their relative positions. For example, in 1982 the college-bound had a slightly lower annual prevalence

FIGURE 67

Prevalence and Recency of Use, by Sex
Amphetamines and Non-Prescription Stimulants, Class of 1987



(at 10% vs. 11%) whereas in 1987 they have a somewhat higher annual prevalence (27% vs. 23%).

- Subgroup differences in trends for the ***diet pills*** and the ***look-alikes*** for the most part reflect the overall trends.

THE USE OF MARIJUANA ON A DAILY BASIS

In past reports in this series, we summarized a number of findings regarding daily marijuana users, including what kind of people they are, how use changes after high school for different subgroups, and what daily users see to be the negative consequences of their use.[34] In 1982 a special question segment was introduced into the study in one of the five questionnaire forms in order to secure more detailed measurement of individual patterns of daily use. More specifically, respondents were asked (a) whether if at any time during their lives they had ever used marijuana on a daily or near-daily basis for at least a month and, if so, (b) how recently they had done that, (c) when they first had done it, and (d) how many total months they had smoked marijuana daily, cumulating over their whole lifetime. The results of our analyses of these questions follow.

Lifetime Prevalence of Daily Use Among Seniors

- ***Current daily use***, defined as use on twenty or more occasions in the past thirty days, has been fluctuating widely over the past eight years, as we know from the trend data presented earlier in this report. It rose from 6.0% among seniors in 1975 to 10.7% in 1978, then down to 3.3% in 1987.

- Since 1982, we have found the ***lifetime prevalence of daily use*** for a month or more to be far higher than current daily use—e.g., at 14.7% or one in every seven seniors in 1987 vs. 3.3% for current daily use. In other words, the proportion who describe themselves as having been daily or near-daily users at some time in their lives is over four times as high as the number who describe themselves as current daily users. However, we believe it very likely that this ratio has changed dramatically over the life of the study as a result of the large secular trends in daily use. Therefore, it would be inaccurate to extrapolate to the class of 1978, for example, and deduce that their lifetime prevalence of daily use was four times their 10.7% current use figure. (An investigation of data from a follow-up panel of the class of 1978 confirms this assertion.)

- Utilizing data collected in 1987 from follow-up panels from the earlier graduating classes of 1976 through 1986, we find that the lifetime prevalence of daily marijuana use for these recent graduates (ranging in age from about 19 to 29) is 20%. Approximately one-fourth of the older portion of that group—graduates from the classes of 1976 through 1980—indicate having been daily marijuana users for a month or more at some time in their lives.

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[34] For the original reports see the following, which are available from the author: Johnston, L.D. (1981). Frequent marijuana use: Correlates, possible effects, and reasons for using and quitting. In R. DeSilva, R. Dupont, & G. Russell (Eds.), *Treating the marijuana dependent person*, New York: The American Council on Marijuana. Also see Johnston, L.D. (1982). A review and analysis of recent changes in marijuana use by American young people. In *Marijuana: The national impact on education*, New York: The American Council on Marijuana.

Grade of First Daily Use

- Of those 1987 seniors who were daily users at some time, over half (61%, or nearly 9% of all seniors) began that pattern of use before tenth grade. However, the secular trends in daily use must be recalled. Active daily use reached its peak among seniors in 1978, when this 1986 graduating class was in fourth grade. Thus we are confident that different graduating classes show different age-associated patterns.

- Nearly all who were to become daily users by the end of high school had done so by the end of grade ten (82% of the eventual daily users). The percentages of all seniors who started daily marijuana use in each grade level is presented in Table 49.

Recency of Daily Use

- Two-thirds (66%) of those who report ever having been daily marijuana users (for at least a one-month interval) have smoked that frequently in the past year-and-a-half, while one-third (33%) of them say they last used that frequently "about two years ago" or longer. On the other hand, only 19% of all such users (or 2.8% of the entire sample) say they have used daily or almost daily in the past month (the period for which we define ***current*** daily users). The fact that only 2.8% of the entire sample report themselves to be current daily users, versus the 3.3% estimate given earlier in this report, suggests that some students have a more stringent definition of "daily or near-daily use" than the operational one used in this report (i.e., use on twenty or more occasions during the past month).

Duration of Daily Use

- It seems likely that the most serious long-term health consequences associated with marijuana use will be directly related to the duration of heavy use. Thus a question was introduced which asks the ***cumulative*** number of months the student has smoked marijuana daily or nearly daily. While hardly an adequate measure of the many different possible cross-time patterns of use—a number of which may eventually prove to be important to distinguish—it does provide a gross measure of the total length of exposure to heavy use.

TABLE 49
Daily Marijuana Use: Responses to Selected Questions by Subgroups: 1987 Seniors

	Total	Sex		4-Year College Plans		Region				Population Density		
Q. Thinking back over your whole life, has there ever been a period when you used marijuana or hashish on a daily, or almost daily, basis for at least a month?		Male	Female	No	Yes	North East	North Central	South	West	Large SMSA	Other SMSA	Non-SMSA
No	85.3	83.8	87.8	82.0	88.9	83.0	87.3	88.1	80.3	83.3	85.0	87.8
Yes	14.7	16.2	12.2	18.0	11.1	17.0	12.7	11.9	19.7	16.7	15.0	12.2
Q. How old were you when you first smoked marijuana or hashish that frequently?												
Grade 6 or earlier	1.6	2.1	0.6	0.9	1.4	1.0	1.6	1.7	1.8	1.8	1.6	1.4
Grade 7 or 8	3.6	4.2	2.8	5.4	2.2	5.4	3.1	2.0	5.1	5.3	2.7	3.3
Grade 9 (Freshman)	3.7	3.9	3.7	5.1	2.8	3.9	3.0	3.7	4.8	4.7	4.5	1.7
Grade 10 (Sophomore)	3.1	3.2	2.3	3.0	2.4	4.0	2.0	2.5	4.3	2.9	3.0	3.2
Grade 11 (Junior)	2.4	2.4	2.4	3.2	2.0	2.3	3.0	1.6	2.8	1.6	2.6	2.5
Grade 12 (Senior)	0.3	0.3	0.5	0.5	0.3	0.5	0.0	0.3	0.8	0.3	0.6	0.0
Never used daily	85.3	83.8	87.8	82.0	88.9	83.0	87.3	88.1	80.3	83.3	85.0	87.8
Q. How recently did you use marijuana or hashish on a daily, or almost daily, basis for at least a month?												
During the past month	2.8	3.5	1.8	3.4	1.8	2.5	3.2	2.4	3.6	3.2	2.8	2.6
2 months ago	0.9	0.8	0.7	1.1	0.5	1.3	0.7	0.5	1.4	1.3	0.7	0.9
3 to 9 months ago	2.5	2.9	1.9	2.6	1.8	3.4	2.3	2.4	1.7	3.3	2.3	2.0
About 1 year ago	3.5	3.8	3.3	4.6	3.0	4.4	2.6	2.7	5.5	3.1	4.2	2.9
About 2 years ago	2.5	2.8	2.2	2.9	2.3	2.2	2.1	2.0	4.3	2.4	2.9	1.8
3 or more years ago	2.4	2.3	2.3	3.5	1.6	3.2	1.8	1.9	3.1	3.3	2.2	2.0
Never used daily	85.3	83.8	87.8	82.0	88.9	83.0	87.3	88.1	80.3	83.3	85.0	87.8
Q. Over your whole lifetime, during how many months have you used marijuana or hashish on a daily or near-daily basis?												
Less than 3 months	4.7	4.7	4.8	4.9	4.4	4.5	4.7	3.6	7.1	5.3	4.2	5.3
3 to 9 months	3.3	3.6	2.9	4.1	2.7	5.0	2.2	2.4	4.4	3.1	3.9	2.1
About 1 year	2.0	2.1	1.9	3.1	1.5	2.1	1.6	1.9	3.0	2.6	2.1	1.5
About 1 and 1/2 years	0.9	1.3	0.6	1.6	0.5	1.5	0.7	0.8	0.8	1.0	1.1	0.5
About 2 years	1.6	1.6	1.3	1.9	1.2	2.0	1.1	1.4	2.1	2.4	1.4	1.2
About 3 to 5 years	1.7	2.6	0.6	2.1	0.8	1.2	2.3	1.2	2.1	1.2	2.2	1.4
6 or more years	0.5	0.3	0.2	0.2	0.1	0.7	0.1	0.6	0.2	1.0	0.1	0.3
Never used daily	85.3	83.8	87.8	82.0	88.9	83.0	87.3	88.1	80.3	83.3	85.0	87.8
N =	(3179)	(1497)	(1569)	(885)	(2008)	(676)	(866)	(1007)	(630)	(820)	(1550)	(809)

NOTE: Entries are percentages which sum vertically to 100%.

- Table 49 gives the distribution of answers to this question. It shows that two-thirds (68%) of those with daily use experience have used "about one year" or less cumulatively—at least by the end of twelfth grade. In fact, almost a third (32%) have used less than three months cumulatively.

- On the other hand, over one-fourth (26%, or 3.8% of *all* seniors) have used "about two years" or more cumulatively on a daily or near-daily basis.

Subgroup Differences

- There is some ***sex difference*** in the proportion having ever been a daily user—16% for males and 12% for females. Furthermore, the cumulative duration of daily use is distinctly longer for the males. These two sex differences combine to account for the large male-female difference in current daily use. There is also some difference in their age at onset, with the males tending to start earlier on the average.

- Whether or not the student has ***college plans*** is strongly related to lifetime prevalence of daily marijuana use, as well as to current prevalence. Of those planning four years of college, 11% had used daily compared with 18% of those without such plans. And the college-bound users show a distinctly shorter cumulative duration of use, with a lower proportion of them still using daily. Nevertheless, among those in each group who did use daily, the age-at-onset pattern is fairly similar.

- There are some large ***regional differences*** in lifetime prevalence of daily use; The West is highest, with 20% having used daily at some time, the Northeast is next at 17%, followed by the North Central at 13% and the South at 12%. This ordering is similar to that found for current daily use, except that the Northeast is now slightly higher than the West on that statistic.

- The subgroup differences associated with ***urbanicity*** are likewise similar to those found for current daily use. ***Lifetime*** prevalence of daily marijuana use is 17% in the large cities, 15% in the smaller cities, and 12% in the nonurban areas.

Trends in Seniors' Use of Marijuana on a Daily Basis

- Table 50 presents trend data on the lifetime prevalence of daily use for a month or more. It shows a decelerating decline since 1982 (when this measure was first used) through 1987, from 21% to 15%.

- Between 1982 and 1987, the decline in lifetime daily use was stronger among females (from 18% to 12%) than among males (20%

TABLE 50

Trends in Daily Use of Marijuana in Lifetime by Subgroups

	Percentage using daily for at least a month							Percentage reporting first such use prior to tenth grade						
	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	'86–'87 change
All seniors	20.5	16.8	16.3	15.6	14.9	14.7	−0.2	13.1	11.1	10.9	8.8	8.5	8.9	+0.4
Sex:														
Male	20.1	18.1	17.2	17.7	16.6	16.2	−0.4	12.9	12.1	11.8	9.8	8.7	10.2	+1.5
Female	18.0	13.5	12.9	12.0	11.6	12.2	+0.6	11.5	8.3	8.0	6.5	6.6	7.1	+0.5
College Plans:														
None or under 4 yrs	22.5	20.3	18.9	19.6	17.2	18.0	+0.8	14.2	13.5	12.3	11.8	10.7	11.4	+0.7
Complete 4 yrs	13.8	10.5	10.7	10.6	11.0	11.1	+0.1	8.2	6.5	6.6	5.5	5.2	6.4	+1.2
Region:														
Northeast	25.1	20.4	24.1	20.9	21.5	17.0	−4.5	17.3	11.9	17.2	12.9	10.3	10.3	0.0
North Central	21.1	15.9	12.8	16.3	11.3	12.7	+1.4	13.3	12.4	8.4	9.1	7.3	7.7	+0.4
South	15.7	12.7	14.0	8.9	11.3	11.9	+0.6	9.3	8.3	8.5	5.0	6.4	7.4	+1.0
West	20.8	21.4	17.6	18.5	18.3	19.7	+1.4	12.6	13.9	12.1	8.9	11.2	11.7	+0.5
Population Density:														
Large SMSA	23.8	20.0	19.4	18.1	17.0	16.7	−0.3	15.6	13.7	12.4	12.0	9.6	11.8	+2.2
Other SMSA	20.3	18.2	16.6	16.0	14.9	15.0	+0.1	12.5	12.0	11.5	8.3	8.4	8.8	+0.4
Non-SMSA	17.9	12.6	13.2	12.8	13.2	12.2	−1.0	11.7	8.2	8.5	6.6	7.6	6.4	−1.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

to 16%); and the drop was slightly larger in the noncollege-bound group (23% to 18%) than among the college-bound (14% to 11%).

- Lifetime prevalence of daily use has dropped in all four regions of the country since 1982. The decline has been greatest in the North Central and least in the West.

- All three population density levels have shown declines in lifetime daily use.

- Daily use prior to tenth grade has also declined from 13% in the classes of 1982 to 9% in the class of 1986. (This corresponds to people who were ninth graders between 1979 to 1983). The class of 1987 exhibited no further decline. Subgroup trends may be examined in Table 50.

AGE, PERIOD AND COHORT EFFECTS

Throughout this report we have been attributing trends in substance use to one or more of three factors: period effects or secular trends (changes across time common to all age groups); maturational effects (changes with age that are common to all cohorts); and cohort effects (enduring differences between high school classes). The attribution of observed trends to these particular factors is a difficult methodological task, one referred to as "cohort analysis." We have reported our extensive statistical analyses aimed at the differentiation and quantification of these three factors in some detail in a recent article in the *American Journal of Public Health*;[35] a brief summary of the results is included here.

- Many of the results to emerge from the statistical modeling approach used in these analyses have already been reported in this monograph based on a more intuitive analysis of the data.

  Several kinds of *period effects* were evident between 1976 and 1986. Annual cocaine use increased through 1980, with no change thereafter. Linear decreases occurred for annual use of barbiturates, psychedelics other than LSD, and tranquilizers. A bilinear period effect, first increasing and then decreasing, was observed for annual use of marijuana, amphetamines, LSD, and occasions of heavy drinking. Quaaludes also increased and then decreased, though the increase was not linear in form. Monthly alcohol use was constant through 1979, decreasing thereafter.

- A variety of consistent changes as a function of age—*age effects*—also were identified and quantified. Increases in the early years after high school were seen for all measures of cigarette use. The different patterns indicated that there was not much increase in the proportion who were active smokers in the years after high school, but that among those who smoked, a higher proportion became frequent smokers. Monthly and daily use of alcohol and annual prevalence of cocaine increased linearly with age through age 21 and were constant thereafter. A measure of occasions of heavy drinking showed a similar increase through age 21, but declined thereafter. Annual and monthly marijuana prevalence followed a similar pattern, peaking at age 21 or 22 and declining thereafter. Annual amphetamine use also declined with age after 21, but did not increase during the post-high school years. Annual use of LSD and narcotics other than heroin showed simple linear age decreases.

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[35] O'Malley, P.M., Bachman, J.G., and Johnston, L.D (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986, *American Journal of Public Health*, *78*, 1316–1321.

- Clear *class* effects emerged for cigarette use, with successive classes having fewer users at all levels of smoking. Similarly, daily marijuana use seems to decline with successive classes, over and above what could be explained by period and age effects.

It should be noted that we do not ascribe causal roles in changing behavior to the variables age, period, or class. Instead, they reflect the impacts of three somewhat separable classes of underlying causes. It can be highly useful to distinguish which of these three types of change is occurring, because that indicates which classes of causal factors should be considered. Whether a behavioral change is associated with age as opposed to historical period, for example, can be highly relevant to furthering understanding, as well as to targeting prevention activities.

An extensive discussion of causal factors was beyond the scope of the journal article, but we commented briefly on some of the factors that may be involved. With respect to the strong secular trends observed for marijuana, we have interpreted these here and elsewhere as having been caused in large part by changes in attitudes toward marijuana.[36,37] In particular, it appears that an increase in perceived risk of harm to the user from regular marijuana use led directly to a decline in that behavior. With respect to the smaller age trends in marijuana use, we have ascribed these to being due at least in part to the impacts of role transitions. In particular, leaving the parental home to live alone or with others (but not a spouse) seems to lead to an increase in use of marijuana, whereas marriage seems to lead to a decrease.[38] The age distributions in these role transitions would therefore lead to an increase in marijuana use in the first few years after high school followed by a later downturn (which is the observed pattern). The measure of occasions of heavy drinking follows a similar pattern across age, and the interpretation would be similar to that for marijuana. The secular trend reflected in the linear decline in use of tranquilizers, barbiturates, and amphetamines may be due to very different phenomena: for example, we have reported elsewhere that there has been

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[36] Johnston, L.D. (1985). The etiology and prevention of substance use: What can we learn from recent historical change? *In* C.L. Jones, R.J. Battjes (Eds.), *Etiology of Drug Abuse: Implications for Prevention* (NIDA Research Monograph 56). Rockville, MD: National Institute on Drug Abuse.

[37] Bachman, J.G., Johnston, L.D., O'Malley, P.M., Humphrey, R.H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors. *Journal of Health and Social Behavior*, *29*, 92–112.

[38] Bachman, J.G., O'Malley, P.M., Johnston, L.D. (1984). Drug use among young adults: The impacts of role status and social environment. *Journal of Personality and Social Psychology*, *47*, 629–645.

a recent decline in physicians' prescriptions of such drugs to adolescents, which may have contributed to the decline.[6]

DRUG USE AND GENERAL DEVIANCE

Many deviant behaviors such as illicit drug use or delinquent/criminal behaviors are positively correlated with one another. Theories of deviance have attributed the association in either of two ways: (a) there are causal links between some forms of deviance (for example, drug use causes crime), or (b) the various deviant behaviors are basically manifestations of a single general tendency toward deviance. In a recent journal article, we addressed the question as to whether a variety of deviant behaviors are in fact manifestations of a single general tendency toward deviance.[7] A structural equation analysis was conducted using panel data across three time points from students in the classes of 1976 through 1980. Among the deviance measures included in the analyses were self-reported measures of: (a) an index of criminal behavior, (b) dangerous driving, (c) heavy alcohol use, (d) marijuana use, and (e) other illicit drug use. The findings were as follows:

- All of these measures were found to be correlated with all of the others; and a latent variable measuring a relatively stable general involvement in deviance could account for virtually all of this association among these different types of deviance. However, the cross-time stability of each component could only be explained by equally important and stable specific influences.

- Thus, theories that treat different deviant behaviors as alternate manifestations of a single general tendency can account for only some of the meaningful variance in those behaviors, not all of it.

- The only significant possible influence of one type of deviance on another found in the current analyses was a modest association between marijuana use during senior year on use of other illicit drugs one or two years after high school. This means it had predictive power, which may or may not reflect causal influences.

OTHER DATA ON CORRELATES AND TRENDS

Hundreds of correlates of drug use, without accompanying interpretation, may be found in the series of annual volumes from the study entitled *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors.*[8] For each year since 1975, a separate hardbound volume presents univariate and selected bivariate distributions on all questions contained in the study. A host of variables dealing explicitly with drugs—many of them not covered here—are contained in that series. Bivariate tables are provided for *all* questions each year distributed against an index of lifetime illicit drug involvement, making it possible to examine the relationship between hundreds of potential "risk factors" and drug use.

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[6] Johnston, L.D., O'Malley, P.M., Bachman, J.G. (1987). Psychotherapeutic, licit, and illicit use of drugs among adolescents: An epidemiological perspective. *J of Adolescent Health Care, 8*, 36–51.

[7] Osgood, D.W., Johnston, L.D., O'Malley, P.M. and Bachman, J.G. (1988). The generality of deviance in late adolescence and early adulthood. *American Sociological Review, 53*, 81–93.

[8] This series is available from the Publications Division, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan 48109.

A special cross-time reference index is contained in each volume to facilitate locating the same question across different years. One can thus derive *trend* data on some 1500 to 2000 variables for the entire sample or for important subgroups (based on sex, race, region, college plans, and drug involvement).

APPENDIX

ESTIMATES ADJUSTED FOR ABSENTEES AND DROPOUTS

One question which has arisen over the years in regard to this study has concerned the degree to which the prevalence and trend estimates derived from high school seniors are an accurate reflection of the reality which pertains for all young people who would be in the same class or age cohort, including those who have dropped out of school by senior year. In 1985 we published an extensive chapter on this topic in a volume in the NIDA Research Monograph series.[42] We will attempt in this Appendix to summarize the main points relevant to this issue of sample coverage.

First, it should be noted that two segments of the entire class/age cohort are missing from the data collected each year from seniors: those who are still enrolled in school but who are absent the day of data collection (the "absentees") and those who have formally left school (the dropouts). The "absentees" constitute virtually all of the nonrespondents shown in the response rate given in Table 1 in Chapter 3 of this volume (since refusal rates are negligible) or about 18% of all seniors (or 15% of the class/age cohort). Based on our review of available Census data the dropouts account for approximately 15% of the class/age cohort.

The methods we used to estimate the prevalence rates for these two missing segments are summarized briefly here. Then, the effects of adding in these two segments to the calculation of the overall prevalence rates for two drug classes are presented along with the impact on the trend estimates. Two illicit drugs have been chosen for illustrative purposes: marijuana, the most prevalent of the illicit drugs, and cocaine, one of the more dangerous and less prevalent drugs. Estimates for high school seniors are presented for both lifetime and 30-day prevalence for each drug.

THE EFFECTS OF MISSING ABSENTEES

To be able to assess the effects on the estimates of drug use of missing the absentees, we included a question in the study which asks students how many days of school they had missed in the previous four weeks. Using this variable, we can place individuals into different strata as a function of how often they tend to be absent. For example, all students who had been absent 50% of the time could form one stratum. Assuming that absence on the day of the administration is a fairly random event, we can use the respondents in this stratum to represent all students in their stratum, including the ones who happen to be absent that particular day. By giving them a double weight, they can be used to represent both themselves *and* the other 50% of their stratum who were absent that day. Those who say they were in school only one-third of the time would get a weight of three to represent themselves plus the two-thirds in their stratum who were not there, and so forth. Using this method, we found that absentees as a group have appreciably higher than average usage levels for all licit and illicit drugs. However, looking at 1983 data, we found that their omission did not depress any of the prevalence estimates in any of the drugs by more than 2.7%, due to the fact that they represent such a small proportion of the total target sample. Considering that a substantial proportion of those who are absent likely are absent for reasons unrelated to drug use—such as illness and participation in extracurricular activities—it may be surprising to see even these differences. In any case, from the point of view of instructing policy or public perceptions, the small "corrections" would appear to be of little or no significance. (The correction across all 13 drugs in lifetime prevalence averaged only 1.4%.) Further, such corrections should have virtually no effect on cross-time trend estimates unless the rate of absenteeism was changing appreciably; and we find no evidence in our data that it is. Put another way, the presence of a fairly slight underestimate which is constant across time should not influence trend results. Should absentee rates start changing, then it could be argued more convincingly that such corrections should be presented routinely.

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[42] Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Kozel, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57; (ADM) 85-1402). Washington, DC: U.S. Government Printing Office.

THE EFFECTS OF MISSING DROPOUTS

Unfortunately, we cannot derive corrections from data gathered from seniors to impute directly the prevalence rates for dropouts, as we did for absentees, since we have no completely appropriate stratum from which we have "sampled." We do know from our own previous research, as well as the work of others, that dropouts have prevalence rates for all classes of drugs substantially higher than the in-school students. In fact, the dropouts may be fairly similar to the absentees.

We have consistently estimated the proportion who fail to complete high school to be approximately 15%; Figure A-1 displays the completion rate for the years 1972 through 1987 based on Census data. As the figure indicates, completion rates (and the complement, dropout rates) have been quite constant over this interval for persons 20–24 years old.[43] (Younger age brackets are more difficult to use because they include some who are still enrolled in high school.) Monitoring the Future probably covers some small proportion of the 15%, in fact, since the survey of seniors takes place a few months before graduation, and not everyone will graduate. On the other hand, perhaps 1% to 2% of the age group which Census shows as having a diploma get it through a General Equivalency Degree and thus would not be covered in Monitoring the Future. (Elliot and Voss report this result for less than 2% of their sample in their follow-up study of 2617 ninth graders in California who were followed through their high school years.)[44] So these two factors probably cancel each other out. Thus, we use 15% as our estimate of the proportion of a class cohort not covered.

Extrapolating to dropouts from absentees. To estimate the drug usage prevalence rates for this group we have used two quite different approaches. The first was based on extrapolations from seniors participating in this study. Using this method we developed estimates under three different assumptions: that the difference between dropouts and the participating seniors in the study was equivalent to (a) the difference between absentees and the participating seniors, (b) one and one-half times that difference, and (c) twice that difference. The last assumption we would consider a rather extreme one.

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[43] U.S. Bureau of the Census (various years). *Current population reports, Series P-20*, various numbers. Washington, DC: U.S. Government Printing Office.

[44] Elliott, D., & Voss, H.L. (1974). *Delinquency and dropout.* Lexington, MA: D.C. Heath-Lexington Books.

The second general method involved using the best recent national data on drug use among dropouts—namely the National Household Surveys on Drug Abuse.[45] While these surveys have rather small samples of dropouts in the relevant age range in any given year, they should at least provide unbiased estimates for dropouts still in the household population.

Using the first method of estimation, we found that, under the assumption that dropouts are just like absentees, no prevalence rate was changed by more than 5% over the estimate based on 1983 seniors only, even with the simultaneous correction for *both* absentees and dropouts. (The method for calculating prevalence rates for the absentees is the one described in the previous section.) The largest correction in 1983 involved marijuana, with lifetime prevalence rising from just under 60% to 64%. Even under the most extreme assumption—which results in exceptionally high prevalence rates for dropouts on all drugs, for example 90% lifetime prevalence for marijuana, the overall correction in any of the prevalence figures for any drug remains less than 7.5%. Again, marijuana shows the biggest correction (7.5% in annual prevalence, raising it from 46% uncorrected to 54% with corrections for both absentees and dropouts). As we would have expected, the biggest *proportional* change occurs for heroin, since it represents the most deviant end of the drug-using spectrum and thus would be most associated with truancy and dropping out.

Extrapolating from the household surveys. The second method of estimating drug use among dropouts was by comparing the household survey data on dropouts with the data from those remaining in school. We conducted secondary analyses of the archived data from the 1977 and 1979 National Household Surveys. Analyses were restricted to the age range 17 to 19 years old, since about 95% of the Monitoring the Future respondents fall in this range. Of course, the numbers of cases are small. In the 1977 survey there were only 46 dropouts and 175 enrolled seniors in this age group. In the 1979 survey 92 dropouts and 266 seniors were included.

For marijuana, the estimated differences from the household survey data came out at a level which was at or below the *least* extreme assumption made in the previous method (where dropouts are assumed to have the same drug use levels as absentees). While this may have been comforting to the authors of the present report, we must admit that we believe the household sample underrepresents the more drug-prone dropouts to some degree. Those without permanent residence and those in the prison population, to take two examples, would be excluded from the sample coverage in a household survey. Thus we concluded that estimates closer to those made under the second assumption in the previous method may be closer to reality—that is, that dropouts are likely to deviate

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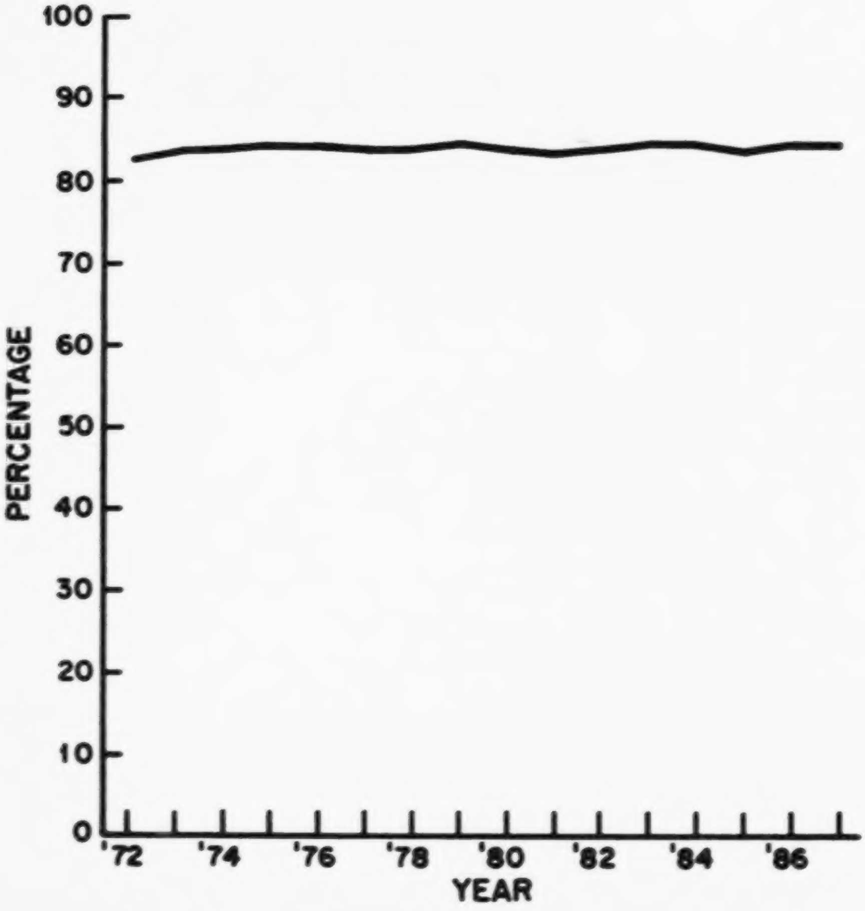
[45] Fishburne, P.M., Abelson, H.I., & Cisin, I. (1980). *National survey on drug abuse: Main findings, 1979* (NIDA (ADM) 80-976). Washington, DC: U.S. Government Printing Office. Also see Miller, J.D., et al., (1983). *National survey on drug abuse: Main findings, 1982* (NIDA (ADM) 83-1263). Washington, DC: U.S. Government Printing Office.

FIGURE A-1

High School Completion by Persons 20–24 Years Old, 1972–1987
U.S. Population



Source: U.S. Bureau of the Census, Current Populations Surveys, published and unpublished data; and 1980 Census.

from participating seniors by one and one-half times the amount that absentees deviate from them.

Again, we emphasize that there are a number of reasons for dropping out, many of which bear no relationship to drug use, including economic hardship in the family and certain learning disabilities and health problems. At the national level, the extreme groups such as those in jail or without a permanent place of residence are undoubtedly very small as a proportion of the total age group and probably even as a proportion of all dropouts. Thus, regardless of their prevalence rates, they would be unable to move the prevalence estimates by a very large proportion except in the case of the most rare events—in particular, heroin use. We do believe that in the case of heroin use—particularly regular use—we are very likely unable to get a very accurate estimate even with the corrections used in this paper. The same may be true for crack cocaine. For the remaining drugs, we conclude that our estimates based on participating seniors, though somewhat low, are not bad approximations for the age group as a whole.

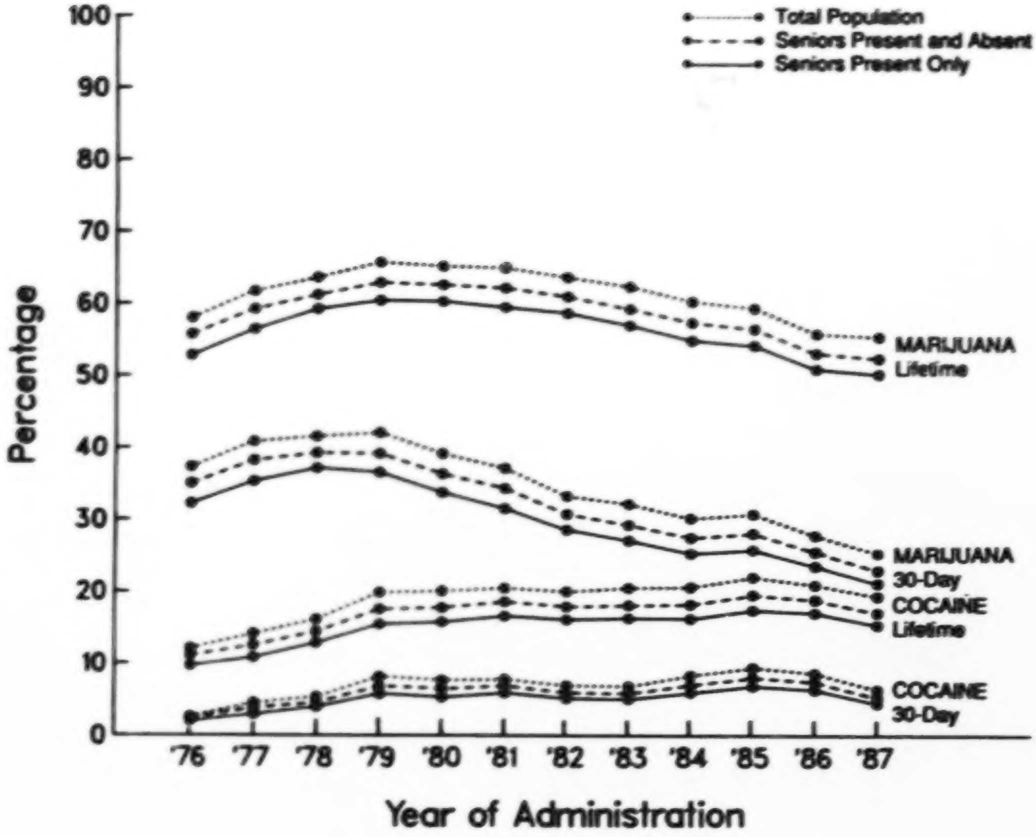
Effects of omitting dropouts in trend estimates. Whether the omission of dropouts affects the estimates of *trends* in prevalence rates is a separate question, however, from the degree to which it affects absolute estimates at a given point in time. The relevant issues parallel those discussed earlier regarding the possible effects on trends of omitting the absentees. Most important is the question of whether the rate of dropping out has been changing in the country, since a substantial change would mean that seniors studied in different years would represent noncomparable segments of the whole class/age cohort. Fortunately for the purposes of this study, at least, the official government data provided in Figure A-1 indicate a very stable rate of dropping out since 1972.

Given that there appears to be no sound evidence of a change in the dropout rate, the only reason that trend data from seniors would deviate from trends for the entire class cohort (including dropouts) would be if the constant proportion who have been dropouts for some reason showed trends contrary to those observed among seniors; and even then, because of their small numbers, they would have to show dramatically different trends to be able to change the trend "story" very much for the age group as a whole. There has been no hypothesis offered for such a differential shift among dropouts which these authors, at least, find very convincing.

The one hypothesis which is occasionally heard is that more youngsters are being expelled from school, or voluntarily leaving school, because of their drug use; and that this explains the recent downturn in the use of many drugs being reported by the study. However, it is hard to reconcile this hypothesis with the virtually flat dropout rates over the period displayed in Figure A-1, unless one posits a perfectly offsetting tendency for more completion among those who are less drug prone—hardly a very parsimonious set of explanations. Further, the reported prevalence of some drugs has remained remarkably stable throughout the life of the study (e.g., alcohol and opiates other than heroin) and the prevalence of some has risen (cocaine until very recently, and amphetamines until fairly recently). These facts are not very consistent with the hypothesis that there has been a recent increased rate of departure by the most drug prone. Certainly more youngsters leaving school in the 80's have drug problems than was true in the 60's. (So do more of those who stay in.) However, they still seem likely to be very much the same segment of the population, given the degree of association that exists between drug use and deviance and problem behaviors of various sorts.

FIGURE A-2

Estimates of Prevalence and Trends for the Entire Age/Class Cohort, Adjusting for Absentees and Dropouts



SUMMARY AND CONCLUSIONS

In sum, while we believe there is some underestimation of the prevalence of drug use in the cohort at large as a result of the dropouts being omitted from the universe of the study, we think the degree of underestimation is rather limited for all drugs (with the possible exceptions of heroin and crack) and, more importantly, that trend estimates have been rather little affected. Short of having good trend data gathered directly from dropouts—a very expensive research undertaking—we cannot close the case definitively. Nevertheless, we think the available evidence argues strongly against alternative hypotheses—a conclusion which was also reached by the members of the NIDA technical review on this subject held in 1982.[46]

> . . . the analyses provided in this report show that failure to include these two groups (absentees and dropouts) does not substantially affect the estimates of the incidence and prevalence of drug use.

EXAMPLES OF REVISED ESTIMATES FOR TWO DRUGS

Figure A-2 provides the prevalence and trend estimates of marijuana and cocaine, for both the lifetime and thirty-day prevalence periods, showing (a) the original estimates based on participating seniors only; (b) the empirically derived, revised estimates based on all seniors, including the absentees; and (c) estimates for the entire class/age cohort. The last estimate was developed using the assumption judged to be most reasonable above—namely that the dropouts differ from participating seniors by one and one-half times the amount that the absentees do. Estimates were calculated separately for each year, thus taking into account any differences from year to year in the participation or absentee rates. The dropout rate was taken as a constant 15% of the age group across all years.

As Figure A-2 illustrates, any difference in the slopes of the trend lines between the original and revised estimates is extremely, almost infinitesimally, small. The prevalence estimates are higher, of course, but not dramatically so, and certainly not enough so to have any serious policy-implication effects in the interpretation of the data.

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[46] Clayton, R.R., & Voss, H.L. (1982). *Technical review on drug abuse and dropouts.* Rockville, MD: National Institute on Drug Abuse.

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